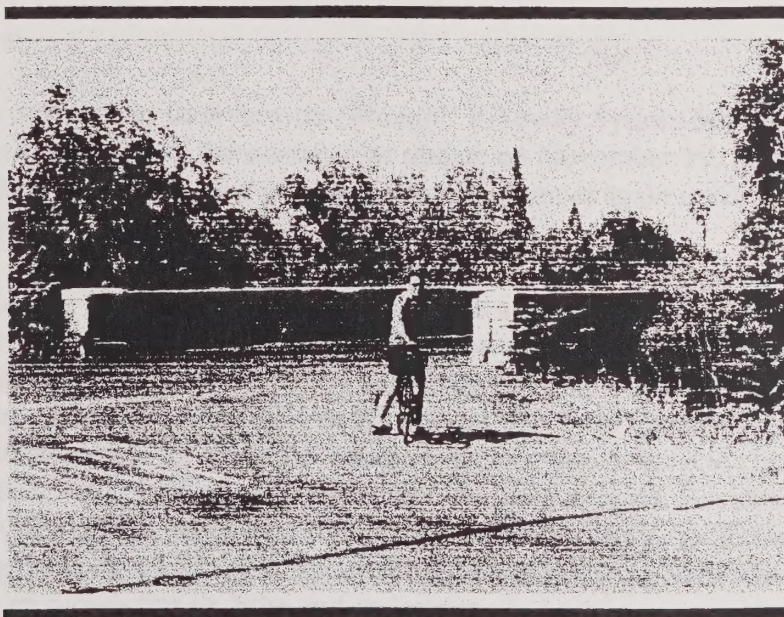


2005 0022

IGSL

# Bikeway System Master Plan Update



INSTITUTE OF GOVERNMENTAL  
STUDIES LIBRARY

JAN 10 2005

UNIVERSITY OF CALIFORNIA

## City of Winters

Adopted November 19, 2002



Digitized by the Internet Archive  
in 2026 with funding from  
State of California and California State Library

<https://archive.org/details/C101696012>





2005 0022  
"When You're Going Somewhere"

City of Davis • City of West Sacramento • City of Winters  
City of Woodland • County of Yolo  
Ex Officio - CalTrans District 3 • University of California - Davis

Yolo County Transportation District  
350 Industrial Way  
Woodland, CA 95776  
(530) 661-0816 FAX:(530) 661-1732  
www.yolobus.com

November 26, 2002

Dan Sokolow  
Redevelopment/Housing Manager  
City of Winters  
318 First Street  
Winters, CA 95694

RECEIVED

NOV 27 2002

CITY OF WINTERS

Dear Mr. Sokolow:

Thank you for the opportunity to review the Winters "Bikeway System Master Plan Update". I understand your council adopted the master plan update on November 19, 2002. Since the Yolo County Transportation District Board of Directors will not meet again until December 10, 2002, these comments are from the staff.

Overall, the bike master plan update is a comprehensive and thorough document, which clearly identifies the priorities and implementation schedule for the city's bike plan. As you are aware, this district has assisted Winters in the past in obtaining funding for the Putah Creek nature park pathway and for the repairs to the railroad trestle bridge. The Yolo County Transportation District supports efforts by all the member jurisdictions to improve bicycle circulation within their cities and between the cities, as well as for recreational purposes. Besides operating the Yolobus transit system, whose buses are all equipped with bike racks, YCTD is also the Congestion Management Agency, and supports all efforts at reducing vehicular traffic in favor of alternative modes, including transit, bike and pedestrian.

We support your attempt at state funding through the Bicycle Transportation Account (BTA), and will assist your efforts by any means at our disposal.

Sincerely,

Martie Dote  
Senior Transportation Planner





**CITY COUNCIL  
RESOLUTION NO. 2002-48**

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WINTERS  
RE-AFFIRMING THE NEGATIVE DECLARATION ADOPTED FOR THE BIKEWAY  
SYSTEM MASTER PLAN AND APPROVING THE BIKEWAY SYSTEM MASTER  
PLAN UPDATE**

**WHEREAS**, the City of Winters supports the use of bikeways for commuting and recreational purposes and recognizes the benefits of bikeways for reducing air emissions; and

**WHEREAS**, the City's General Plan (Implementation Policy III.10) calls for the preparation of a bicycle master plan and the current Bikeway System Master Plan (BSMP) was adopted by the City in 1998; and

**WHEREAS**, the BSMP has been updated to reflect bikeway projects that have been completed since 1998; and

**WHEREAS**, the City Council noticed a public hearing on the BSMP Update held on November 19, 2002, conducted said hearing, and closed the public hearing after receipt of the staff report, written correspondence and public comments; and

**NOW, THEREFORE BE IT RESOLVED** that the City Council hereby re-affirms the previously certified and approved Negative Declaration, which was adopted for the current Bikeway System Master Plan in 1998.

**BE IT FURTHER RESOLVED** that the City Council of the City of Winters adopts the Bikeway System Master Plan Update.

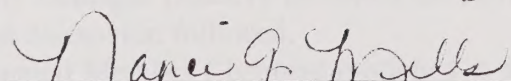
**PASSED AND ADOPTED** at a regular meeting of the Winters City Council, County of Yolo, State of California, on the 19th day of November, 2002, by the following roll call vote:

**AYES:** Chapman, Guelden, Martinez, Romney, Mayor Anderson  
**NOES:** None  
**ABSENT:** None  
**ABSTAIN:** None



**Harold R. Anderson, MAYOR**

**ATTEST:**

  
**Nanci G. Mills, CITY CLERK**





**MINUTES OF THE REGULAR MEETING OF THE CITY COUNCIL  
OF THE CITY OF WINTERS HELD ON TUESDAY,  
NOVEMBER 19, 2002 AT 7:30 P.M.**

**243**

Mayor Anderson called the meeting to order at 7:30 p.m..

**Pledge Of Allegiance**

Present were Council Members Chapman, Guelden, Martinez, Romney, and Mayor Anderson. Also present were City Manager Donlevy, City Clerk Mills, Director of Financial Management Gunby, Public Works Director Honer, Redevelopment and Housing Manager Sokolow, and Records Clerk Core.

**RECOGNIZE AUDIENCE/CORRESPONDENCE:**

Mr. Leland Ruiz, 6638 Hillgate Rd., Arbuckle, CA, addressed Council regarding zoning of a parcel he owns in Winters.

**MODIFICATION OF AGENDA:**

Mayor Anderson tabled Consent Item B.

**CONSENT ITEMS:**

- A. APPROVE THE MINUTES OF A REGULAR MEETING OF THE CITY COUNCIL AND COMMUNITY DEVELOPMENT AGENCY OF THE CITY OF WINTERS HELD, TUESDAY, NOVEMBER 5, 2002**
- B. TABLED-APPOINT COUNCILMEMBER GUELLEN TO LOWER PUTAH CREEK COORDINATING COMMITTEE**

Council Member Guelden motioned to approve Consent Item A.

Seconded by Council Member Romney.

Motion carried unanimously.

**DISCUSSION ITEMS:**

- 1. PUBLIC HEARING AND RESOLUTION NO. 2002-48; RE-ADOPTION OF NEGATIVE DECLARATION FOR AND APPROVAL OF THE BIKEWAY SYSTEM MASTER PLAN UPDATE**

Redevelopment and Housing Manager Sokolow reviewed the staff report and discussion followed.

Mayor Anderson opened the public hearing at 7:42 p.m..

Mayor Anderson closed the public hearing at 7:42 p.m..

Council Member Chapman motioned to adopt Resolution 2002-48; A Resolution Of The City Council Of The City Of Winters Re-Affirming The Negative Declaration Adopted For The Bikeway System Master Plan And Approving The Bikeway System Master Plan Update.

Seconded by Council Member Romney.

Motion carried unanimously.

- 2. EXTENSION OF EXISTING WASTEWATER OPERATIONS AND MAINTENANCE CONTRACT - ECO RESOURCES, INC.**

City Manager Donlevy reviewed the staff report. Kathy Stone from ECO Resources gave a presentation and discussion followed.

Council Member Chapman motioned to approve the contract with Eco Resources.

Seconded by Council Member Martinez.

Motion carried unanimously.



MINUTES OF THE REGULAR MEETING OF THE CITY COUNCIL  
OF THE CITY OF WINTERS HELD ON TUESDAY,  
NOVEMBER 19, 2002 AT 7:30 P.M.

**3. EQUIPMENT REPLACEMENT POLICY**

City Manager Donlevy reviewed the staff report. Director of Financial Management Gunby provided additional explanation and discussion followed.

Council Member Romney motioned to adopt the Equipment Replacement Policy.

Seconded by Council Member Martinez.

Motion carried unanimously.

**4. CITY GOALS AND ISSUES REPORT**

City Manager Donlevy gave a presentation.

**CITY MANAGER REPORT**

City Manager Donlevy gave an oral report regarding items expected for the December Council meetings.

**COUNCIL/STAFF COMMENTS**

Council Member Chapman requested Public Works Director Honer to confirm the Waste Management pick ups scheduled for Thanksgiving will be completed on the following day.

**INFORMATION ONLY**

1. FINANCIAL STATEMENTS FOR SEPTEMBER 2002
2. QUARTERLY INVESTMENT EARNINGS REPORT AS OF SEPTEMBER 30, 2002

Council adjourned to recess at 8:45 p.m.

**EXECUTIVE SESSION:**

Mayor Anderson called the Executive Session to order at 8:55 p.m..

1. MEETING WITH CITY MANAGER PURSUANT TO SECTION 54957.6 OF THE GOVERNMENT CODE TO DISCUSS ADOPT MEMORANDUM OF UNDERSTANDING - WINTERS POLICE OFFICERS' ASSOCIATION

Executive Session adjourned to open session at 8:59 p.m.

**RETURN TO OPEN SESSION:**

Mayor Anderson called open session to order at 8:59 p.m.

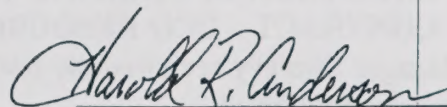
1. ADOPT MEMORANDUM OF UNDERSTANDING - WINTERS POLICE OFFICERS' ASSOCIATION

Council Member Chapman motioned to approve the Memorandum of Understanding -Winters Police Officers' Association.

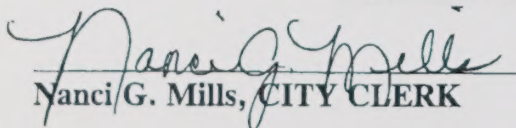
Seconded by Council Member Martinez.

Motion carried unanimously.

Council adjourned at 9:00 p.m.



Harold R. Anderson, MAYOR



Nanci G. Mills, CITY CLERK



### Credits and Acknowledgements

The City of Winters' first Bikeway System Master Plan (BSMP) was prepared with the assistance of Michael G. Jones, principal and bicycle transportation plan consultant, from Alta Planning + Design and adopted by the Winters City Council on November 3, 1998. The City received grant funding through the Yolo-Solano Air Quality Management District's Clean Air Program for the 1998 BSMP.

### Table of Contents

|                                                                    |           |
|--------------------------------------------------------------------|-----------|
| <b>Introduction.....</b>                                           | <b>1</b>  |
| <b>1.0 Goals and Objectives.....</b>                               | <b>4</b>  |
| 1.1 Relationship between this Plan and other Planning Efforts..... | 4         |
| 1.2 Goals and the Bicycle Master Plan.....                         | 5         |
| <b>2.0 Existing Conditions.....</b>                                | <b>13</b> |
| 2.1 Existing Bicycle Facilities and Activity Areas.....            | 13        |
| 2.2 Opportunities and Constraints.....                             | 14        |
| 2.3 Needs Analysis.....                                            | 16        |
| 2.4 Accident Analysis.....                                         | 22        |
| 2.5 Relevant Legislation and Policies.....                         | 22        |
| 2.5 Bicycle Parking.....                                           | 24        |
| <b>3.0 Proposed Bikeway Projects and System.....</b>               | <b>26</b> |
| 3.1 Creating a Bikeway System.....                                 | 26        |
| Project No. 1: Southern Pacific Railroad Trestle.....              | 30        |
| Project No. 2: Railroad Avenue Bikeway.....                        | 32        |
| Project No. 3: Third Street/Hemenway Street/Moody Slough Road..... | 33        |
| Project No. 4: Putah Creek Pathway.....                            | 34        |
| 3.2 Bicycle Parking and Other Support Facilities.....              | 35        |
| 3.3 Multi-modal Connections.....                                   | 36        |
| <b>4.0 Design and Maintenance Standards.....</b>                   | <b>37</b> |
| 4.1 Existing Bicycle Design Standards and Classifications.....     | 37        |
| 4.2 General Design Recommendations.....                            | 37        |
| 4.3 Class I Bike Paths.....                                        | 39        |
| 4.4 On-Street Bikeway Implementation Steps.....                    | 45        |
| 4.5 Class II and III Bikeway Design Guidelines.....                | 47        |



## Bikeway System Master Plan Update

---

|            |                                                 |           |
|------------|-------------------------------------------------|-----------|
| 4.6        | Other Facilities.....                           | 52        |
| 4.7        | Monitoring, Maintenance, and Security.....      | 53        |
| 4.7.1      | Monitoring.....                                 | 53        |
| 4.7.2      | Maintenance.....                                | 62        |
| 4.7.3      | Security.....                                   | 62        |
| <b>5.0</b> | <b>Promoting and Encouraging Bicycling.....</b> | <b>64</b> |
| 5.1        | Community and Employer Outreach.....            | 64        |
| 5.2        | Bicycle Safety Education Programs.....          | 66        |
| 5.3        | Other Safety Improvements.....                  | 68        |
| <b>6.0</b> | <b>Implementation Strategy.....</b>             | <b>70</b> |
| 6.1        | Ranking and Phasing of Improvements.....        | 70        |
| 6.2        | Cost, Phasing, and Funding Breakdown.....       | 71        |
| 6.3        | Funding.....                                    | 74        |
| 6.4        | Financing.....                                  | 78        |

## List of Figures

---

|           |                                                                |    |
|-----------|----------------------------------------------------------------|----|
| Figure 1  | Existing Conditions Map.....                                   | 15 |
| Figure 2  | Accident Locations Map.....                                    | 23 |
| Figure 3  | Proposed Bikeway System.....                                   | 27 |
| Figure 4  | Bike Paths, Lanes, Routes.....                                 | 38 |
| Figure 5  | Class I Multi-Use Trail Cross Section.....                     | 41 |
| Figure 6  | Class I Multi-Use Trail Crossing Prototype.....                | 42 |
| Figure 7  | Putah Creek Pathway Cross Section.....                         | 44 |
| Figure 8  | Class II Bike Lane Cross Section.....                          | 48 |
| Figure 9  | Bike Lane Intersection Design.....                             | 50 |
| Figure 10 | Recommended Right Turn Channelization.....                     | 51 |
| Figure 11 | Signs and Marking within School Zones.....                     | 57 |
| Figure 12 | Bike Route Sign.....                                           | 58 |
| Figure 13 | Numbered Bike Route Sign.....                                  | 59 |
| Figure 14 | Corridor Signing and Marking - Unsignalized Intersections..... | 60 |
| Figure 15 | Corridor Signing and Marking - Signalized Intersections.....   | 61 |
| Figure 16 | Warning Signs.....                                             | 62 |

## List of Tables

---

|         |                                                  |    |
|---------|--------------------------------------------------|----|
| Table 1 | Estimated Daily Bicycle Commuter Population..... | 18 |
| Table 2 | Class I Bicycle Path Specifications.....         | 40 |

## **Bikeway System Master Plan Update**

---

|          |                                                |    |
|----------|------------------------------------------------|----|
| Table 3  | Actions to Install Class II Bike Lanes.....    | 45 |
| Table 4  | Actions to Install Class III Bike Routes.....  | 46 |
| Table 5  | Class II Bicycle Lane Specifications.....      | 49 |
| Table 6  | Recommended Signing and Marking.....           | 54 |
| Table 7  | Bikeway Maintenance Check List.....            | 64 |
| Table 8  | Scheduled Roadway Improvements.....            | 71 |
| Table 9  | Project Phasing, Responsibility, and Cost..... | 72 |
| Table 10 | Summary of Funding Programs.....               | 76 |

### **Appendices**

|          |                                 |    |
|----------|---------------------------------|----|
| Figure 1 | City of Winters Zoning Map..... | A1 |
|----------|---------------------------------|----|



### ***Why does Winters need a Bikeway System Master Plan?***

Flanked by the Coastal Range to the west and the lush agricultural fields of the Western Sacramento Valley, Winters enjoys one of the finest settings of any smaller city in California. Residents of the city have access to the foothills, rivers and creeks, as well as regional recreation resources such as Lake Berryessa. The City is also a transportation hub, with the intersection of I-505 at the City's doorstep and I-80 only 10 miles to the south and situated about 10 miles east of Davis on State Route 128 (SR 128), a major tourist route to Lake Berryessa. The City is connected to other regional centers by scheduled transit service provided by the Yolo County Transportation District. A regional airport is located in nearby Vacaville at the Nut Tree Airport. Significantly, most goods movement (such as agricultural produce) generated in Yolo County (one of the most productive agricultural regions in the state) moves through Winters on trucks.

Historically life in Winters has centered around the farming and cattle industries. In recent times newcomers from the Bay Area, Solano County, Davis, and the Sacramento area seeking a less hectic lifestyle, and including both young and retired people, have changed the flavor of the City and surrounding areas. With the emergence of smaller service and other employers, in addition to the continued primacy of food production in the area, life in Winters continues to change.

Why does Winters need a Bikeway System Master Plan? One reason is the continuing change from a strictly agricultural town to a residential community and visitor attraction. Simply put, visitors desire to get out of their cars and walk and bike on the quiet streets and historic downtown. In order to attract and extend the stay of visitors, the bicycling environment in Winters must be enhanced.

Another reason is the enjoyment and quality of life for the residents of Winters. Since bicycling is one of the most popular forms of recreational activity in the United States (with 46% of Americans bicycling for pleasure), we can assume that almost 2,900 residents in Winters would like to bike purely for pleasure.

Safety is a primary reason to improve bicycling conditions in Winters. Concerns about safety are the single greatest reason people don't commute by bicycle, according to a 1991 Lou Harris Poll. Addressing those concerns for bicyclists through physical and program improvements is another major objective of the Master Plan.



### *What are the Four Issues that Winters must address to become a Bikeway Friendly City?*

Safety, access, quality of life, and effective implementation are imperative elements for Winters' success as a bike-friendly city.

**Safety** is the number one concern of citizens, whether they are avid or casual recreational cyclists or bikeway commuters. For the most part bicyclists can use back streets to avoid traffic downtown. However, a consistent bikeway network with either bike lanes or wider curb lanes and signing is somewhat lacking in the City. In many instances historic design decisions have been made to increase vehicular traffic capacity and speeds at the expense of bicyclists. To the City's credit, the Circulation Master Plan (Wilbur Smith Associates, 1992) identified optional bike lanes on all but local streets as part of the recommended street standards.

**Access** for bicyclists to shopping, work, recreation, school, and other destinations is somewhat hampered by Grant Avenue (S.R. 128). Movement across Grant Avenue is hampered by the sheer volume of traffic (especially during the summer season). Mid-block crossings of Grant Avenue continue to be a problem for bicyclists.

This Plan urges Winters to take measurable steps toward the goal of improving every Winters citizen's **Quality of Life**, creating a more sustainable environment, reducing traffic congestion, vehicle exhaust emissions, noise, and energy consumption. The importance of developing a bikeway system that is attractive and inviting is a key element in marketing Winters as a city where people want to live, work, and visit. The attractiveness of the environment not only invites bicyclists to explore Winters, but more importantly, a beautiful environment helps to improve everyone's positive feelings about the quality of life in Winters.

Education, enforcement, engineering, and funding are the basic components of an **Effective Implementation** Program for this Master Plan. Education must be targeted to the bicyclist as well as to the motorist regarding the rights and responsibilities of the bicyclist, pedestrian, and automobile driver. Comprehensive enforcement of existing traffic and parking laws, coupled with the implementation of sound design and engineering principles for bike corridors is also critical. This plan also proposes systematic review of all new development projects, including public works efforts, to assure compliance with planning and building codes and the principles of this Master Plan. Finally, this plan proposes an aggressive strategy for obtaining grants and competing for other funding sources in order to realize the physical improvements identified as the highest priorities.



### ***Expected Benefits of the Bikeway System Master Plan***

Save lives. Dramatically reduce the accident and fatality rate for bicyclists through design standards and guidelines, education, and enforcement.

Provide needed facilities and services. Meet the demand and increased use of bikeways as a means of travel around the City. With a goal of doubling bicycling and walking by 2012, the bikeway commute share would be about 3.8% or 100 bikeway commuters. When combined with non-commute trips, the total number of daily bicyclists could reach 250 or perhaps 300 by 2012.

Improve the quality of life in Winters. Design and build people-friendly streets, paths, trails, and activity centers available to everyone, and support sustainable community development. Reduce traffic congestion, vehicle exhaust emissions, noise and energy consumption. Encourage visitors to stop and enjoy Winters via a bikeway system.

Maximize funding sources for implementation. Equip Winters to successfully compete for state and federal funding, by meeting the requirements of the California Bikeway Transportation Act and the Transportation Equity Act for the 21st Century.

### ***Major Recommendations of the Bikeway System Master Plan***

The Bikeway System Master Plan Update recommends the development of a comprehensive bikeway system in Winters, comprised of Class I bike paths, Class II bike lanes, and Class III bike routes. The system effectively connects all residential neighborhoods with the major activity centers in the City, such as downtown, schools, parks, and the library. The major components of the plan are rehabilitation of the Southern Pacific Railroad Trestle, bike lanes or routes on Railroad Avenue, Third Street, Hemenway Street, and Niemann Street, and new programs to promote bicycling and bikeway safety.

In addition, the plan identifies specific actions that will help develop the bikeway system and related programs over the next 10 years. The total cost of the plan is estimated at \$1,083,188, of which about 80% will come from outside grants or be constructed as part of future roadway projects and future development. The plan also identifies numerous tasks that can be completed with volunteer help from the public.



## 1.0 Goals and Objectives

The Bikeway System Master Plan has been created through the diligent efforts of the City and citizens interested in improving the Winters bicycling environment. Without the sustained efforts of these people, this Plan would not have been conceived and written.

### 1.1 Relationship between this Plan and other Planning Efforts in Winters

As an Element of the General Plan, the Bikeway System Master Plan has the comprehensive scope and jurisdictional authority required to coordinate and guide the provision of all Bikeway-related plans, programs, and projects. Many current planning efforts provide recommendations regarding one element or aspect of the bikeway networks; the task of the Winters Bikeway System Master Plan is to ensure compatibility of all of these blueprints, while attending to planning for areas of the City not already targeted by other studies. This Bikeway System Master Plan is consistent with the bike plans of the Sacramento Area Council of Governments and the Yolo-Solano Air Quality Management District. The studies or planning efforts listed below have been reviewed and consulted, studied for consistency, and where appropriate, folded into Winters' Bikeway System Master Plan:

Winters General Plan Policy Document (including Land Use/Circulation Diagrams and Standards, Recreational and Cultural Resources, Community Design- 1992)

Aside from identifying potential bike lanes (or parking lanes) as part of all future street standards (except local streets), the Plan emphasizes techniques to make downtown a 'pedestrian-oriented' place. Other relevant sections include Transportation and Circulation Goals and Policies to (a) restore the historic Southern Pacific Railroad Trestle over Putah Creek, (b) utilize street design standards which promote pedestrian and bikeway travel and safety over speed and capacity, and (c) provide good bikeway and pedestrian connections to future schools. The Recreational and Cultural Resources Element includes (a) the development of a citywide network of pedestrian and bikeway pathways and equestrian trails. The pedestrian and bikeway pathway and trail system should be designed to link parks, schools, civic and major shopping and employment centers.

County of Yolo Bikeway Plan (2002)

This plan identifies a future high priority Class II bike lane along Russell Boulevard (County Road 32) leading from Davis to Winters (or more precisely, from the County Road 93A junction to I-505). A potential Class III bike route is identified on Grant Avenue (S.R. 128) leading from Winters towards Lake Berryessa. A Class III bike route is identified leading north from Winters on County



Road 29.

Winters Circulation Master Plan (1992)

This plan does not address Bikeways except to the extent that it identifies potential bike lanes as part of the Recommended Street Design Standards for all but local streets.

Putah Creek Nature Park Conceptual Master Plan (1995)

This plan identifies a paved 10-foot wide multi-use trail along the north side of Putah Creek between Railroad Street and I-505 to the east within the 100 foot setback limit from the creek; the trail's primary focus is pedestrians, but it will accommodate bicyclists as well. The trail will have connections into Winters at various locations including Creekside Way and East Street. The Plan also identifies the conversion of the historic Southern Pacific Railroad Trestle into a bikeway/pedestrian facility.

## **1.2 Goals Of The Bikeway System Master Plan**

Goals provide the context for the specific policies and recommendations discussed in the Bikeway System Master Plan. The goals provide the long-term vision and serve as the foundation of the plan. The goals are broad statements of purpose that do not provide details, but show the plan's direction and give overall guidance. Objectives provide more specific descriptions of the goal, while policy actions provide a bridge between general goals and actual implementation guidelines, which are provided in the Implementation chapters.

The following Goals and Objectives are intended to guide bikeway planning, design, and implementation. Note that each policy action that is addressed by or in this Plan is noted with a [P].

### **Objective 1.0 Planning**

*Plan for the development of bikeway facilities and programs as a viable alternative to the automobile.*

#### **Policy 1.0 Develop a tool to plan, design, implement, and maintain a bikeway infrastructure in Winters.**

Actions:

- 1.1 Develop and adopt a Bikeway System Master Plan which identifies existing and future needs, and provides specific recommendations for facilities and programs over the next 20 years.[P]

- 1.2 Update the Plan regularly (every two to five years, as needed)[P]
- 1.3 Ensure that the Plan is consistent with all existing City, regional, state, and federal policy documents, and encourage consistency between the Plan and other General Plan elements.[P]
- 1.4 Encourage development concepts (such as mixed use projects) that have as a goal the reduction of the dependency on the automobile for short commute, shopping, and recreational trips.[Land Use Element]
- 1.5 Maximize coordination between Winters and neighboring jurisdictions using a Bikeway Coordinator as a means to review and comment on issues of mutual concern.[P]

**Objective 2.0          Community Involvement**

*Involve the Community in the Planning and Implementation of the Bikeway System.*

**Policy 2.0          Encourage public participation through local coordination with City staff.**

Actions:

- 2.1 Identify a Bikeway/Pedestrian Coordinator whose responsibility is to (a) provide support to the public, (b) act as a liaison to the City, (c) act as a liaison to local bicyclists, the media, and the community in general, (d) complete funding applications, and (e) provide inter-departmental coordination.[P]
- 2.2 Public involvement in the planning process should be maximized through workshops and other means.[P]
- 2.3 Build coalitions with businesses that the bikeway system serves as well as local clubs and organizations.[P]

**Objective 3.0          Opportunities**

*Utilize existing resources in Winters.*

**Policy 3.0          Build upon the existing bikeway system and programs in Winters.**

Actions:

- 3.1 Identify existing and proposed bike paths, lanes, and routes, and develop a citywide system to maximize use to the extent feasible.[P]



- 3.2 Encourage the use of existing natural and manmade corridors such as creeks, railroad corridors, and other corridors for future bike path alignments.[P]
- 3.3 Identify existing bikeway education programs and target future expansion as need warrants.[P]
- 3.4 Develop a multi-use pathway along Putah Creek as identified in the Putah Creek Nature Park Conceptual Master Plan. [P]

#### **Objective 4.0          Facility Design**

*Provide opportunities for all people in Winters to ride to work or play.*

**Policy 4.0      Develop a citywide bikeway system which meets the needs of commuter and recreational users, helps reduce vehicle trips, and links residential neighborhoods with regional destinations.**

#### **Actions:**

- 4.1 Develop a commuter system which provides direct routes between residential neighborhoods and regional employment centers, multi-modal terminals, and schools.[P]
- 4.2 Develop a recreational system which uses lower traffic volume streets, off-street bike paths, and serves regional historic and natural destinations.[P]
- 4.3 Develop a citywide system that is no further than one (1) mile from any residential neighborhood in Winters, and provides opportunities for local connections to the city-wide system.[P]
- 4.4 Develop a bikeway network which balances the need for directness with concerns for safety and user convenience. Where needed, develop a dual system which serves both the experienced and inexperienced bicyclist, and separates bicyclists, pedestrians, and other recreational users.[P]
- 4.5 Consider opportunities for including bikeway lanes on collectors where width of the street, traffic volumes, and service to major activity centers are appropriate.[P]
- 4.6 Use and supplement design guidelines to outline development standards for bike lanes paths to encourage a safe and inviting environment.[P]
- 4.7 Create connections between bike lanes, pedestrian nodes, and other transportation nodes.[P]

- 4.8 The City should develop criteria for installing traffic calming devices such as traffic roundabouts, channelization, pedestrian refuge islands, T-intersections, modified designs for travel lanes, and reduction in street widths where significant through traffic impacts on low density residential areas. These devices should only be installed where desired by residents and where a demonstrated need exists and where compatible with the access needs of emergency vehicles. Installation priority should consider equity between different neighborhoods.[Circulation Element]

**Objective 5.0 Multi-Modal Integration**

*Integrate Bikeways into other Alternative Modes*

**Policy 5.0 Maximize multi-modal connections to the bikeway system.**

Actions:

- 5.1 Ensure that the citywide system serves all multi-modal facilities in Winters.[P]
- 5.2 Work with local and regional transit agencies to install bike lockers where possible, and to maintain bike racks on buses.[P]

**Objective 6.0 Safety and Education**

*Maximize pedestrian and bikeway safety in Winters.*

**Policy 6.0 Improve bikeway safety conditions in Winters.**

Actions:

- 6.1 Monitor bikeway-related accident levels annually, and target a 40 - 50% reduction on a per capita basis over the next twenty (20) years.[P]
- 6.2 Develop a comprehensive bikeway education program that is taught to all school children in Winters.[P]
- 6.3 Develop a system for identifying, evaluating, reporting and responding to maintenance and safety problems on the existing bikeway system.[P]
- 6.4 Incorporate bikeway safety curriculum into existing motorist education and training.[P]
- 6.5 Local streets shall be posted at a maximum speed of 25 miles per hour, except where a lower speed is dictated by safety and allowable by law.[Circulation Element]



- 6.6 Coordinate with the Winters Police Department to determine strategies of education and enforcement.[P]

**Objective 7.0            Phasing**

*Target improvements for those areas with the highest need and benefit*

**Policy 7.0        Develop detailed and ranked improvements in the Bikeway System Master Plan.****Actions:**

- 7.1    Identify the top four (4) bikeway improvements to be completed in the short to mid term (primary system) based on a variety of objective and subjective criteria, including number of activity centers served, closure of critical gaps, immediate safety hazards, existing bikeway use, and input from the public and staff.[P]
- 7.2    Develop detailed implementation information on each recommended segment, including length, classification, adjacent traffic volumes and speeds, environmental impact, activity centers served, cost, and overall feasibility.[P]
- 7.3    Develop prototype cross sections and plans for the design of bikeways that meet state and federal standards.[P]
- 7.4    Develop education and maintenance programs which may be adopted by local jurisdictions.[P]

**Objective 8.0            Support facilities and programs**

*Maximize bicycling as a transportation mode in Winters.*

**Policy 8.0        Develop a coordinated strategy to develop support facilities and programs in Winters.****Actions:**

- 8.1    Develop and update a bikeway map for public distribution that shows existing and recommended bikeway routes.[P]
- 8.2    Sponsor annual bikeway, running, and hiking events such as Bike to Work Day and adult safety courses in conjunction with regional efforts.[P]
- 8.3    Promote use of bikeways as a safe and convenient alternative mode of transportation.[P]
- 8.4    Amend parking ordinance to require adequate and appropriately located bikeway parking to meet demand.[P]



- 8.5 Develop a unique and distinctive logo for the Winters Bikeway System and locate on citywide system along with appropriate directional and warning signs.

**Objective 9.0 Funding**

*Maximize the amount funding to implement the proposed bikeway system within a prudent budgetary plan.*

**Policy 9.0 Maximize the amount of state and federal funding for bikeway improvements that can be received by Winters.**

Actions:

- 9.1 Identify current regional, state, and federal funding programs, along with specific funding requirements and deadlines.[P]
- 9.2 Encourage multi-jurisdictional funding applications.[P]
- 9.3 Develop a prioritized list of improvements along with detailed cost estimates, and identify appropriate funding sources for each proposal.[P]
- 9.4 Include bikeway improvements in the City's Capital Improvement Plans.[P]
- 9.5 Identify funding that provides a path along Putah Creek and supports the connections to the pathway from the surrounding neighborhoods.[P]
- 9.6 Recommend bike improvements or a donation into a transportation improvement fund for all major residential development projects with 100 new dwelling units or more.[P]

**Objective 10.0 Implementation and Maintenance**

*Implement the proposed bikeway system*

**Policy 10.0 Anticipate impacts of future developments along existing and proposed bikeway improvements.**

Actions:

- 10.1 Examine the adopted land use element to determine areas of potential growth and development in the City. Be aware of development projects that are submitted for review and examine possible impacts these developments might have along existing and proposed bikeway corridors, and require dedication of land and development of project when feasible.[P]

- 10.2 Develop policies for new developments which ensure that the needs of non-motorized users are incorporated into new subdivisions, including providing access points to existing and proposed bikeway facilities, on-street bikeway facilities for bicyclists, and proper roadway crossings where new streets will cross existing and proposed bikeways.[P]
- 10.3 Encourage Caltrans to provide pedestrian/bikeway crossings at appropriate locations across Grant Avenue (S.R. 128). In cases where new development would benefit from such crossings, the private development may be requested/required to participate in the cost of the crossing.[P]
- 10.4 The City will create incentives for use of alternative modes of transportation during review of new development projects.[P]
- 10.5 Travel Demand Management (TDM) programs for employment sites of more than 20 employees may be used as a condition of project approval to mitigate traffic impacts. Voluntary TDM programs for all employers should be encouraged.[Circulation Element]
- 10.6 Require all new developments to provide curb and sidewalks on both sides of the street, except where prohibited by topography or safety considerations. Attention to sidewalk and parkway improvements should be prioritized in the Capital Improvement Program.[Circulation Element]
- 10.7 Enforce existing requirements for property owners to properly maintain sidewalks on their property.[Circulation Element]

## **Objective 11.0      The Downtown**

### *Enhance Downtown Winters for Bicyclists*

**Policy 11.0      Identify a Downtown Bikeway and pedestrian network along with access points to shopping areas and adjacent neighborhoods.**

#### **Actions:**

- 11.1 Bicycle access between Downtown and adjacent residential neighborhoods should be provided, where feasible.[P]
- 11.2 Utilize traffic calming devices to enhance the safety, accessibility and internal movement for bicyclists where appropriate.[P]



## 2.0 Existing Conditions

### 2.1 Existing bicycle facilities and activity areas

There are currently Class II bike lanes on Main Street, East Main Street, and Valley Oak Drive in Winters and a short bike path segment on Railroad Avenue. Nearby regional bicycle facilities include bike lanes (shoulders) on County Roads 31 and 93A leading from Davis to within about one mile east of Winters, and a Class I bike path along Russell Boulevard to within 5 miles of Winters.

Key observations on existing bicycling conditions include:

- Winters is an ideal bicycling environment. The small size, climate, and topography mean that virtually all residents are within a few minutes bicycle ride of all destinations, whether they are for work or play.
- Grant Avenue (S.R. 128) running east-west through the heart of the City is part of a major route used by the bicycling community, especially cyclists from nearby Davis. Many of these cyclists stop over in Winters for a rest and food. Major routes for bicyclists include a loop with Russell Boulevard and Putah Creek Road in Solano County, westward towards Lake Berryessa, or northward along Railroad Avenue.
- Local bicyclists include experienced adult riders and younger school children. Virtually all destinations within Winters can be reached by bicycle within a five minute ride, making it the ideal cycling community in many respects.
- The elementary school, intermediate, middle, and the high schools are located such that many students who walk or ride a bicycle must cross either Grant Avenue (S.R. 128), and/or Railroad Avenue. Observations of students also revealed a substantial number of bicyclists riding on the wrong side of the street and crossing major streets at unprotected locations.
- Local streets in Winters such as Baker Street, Edwards Street, Third Street, Fourth Street, and Apricot Avenue generally provide good bicycling alternatives to more heavily traveled roadways.
- Main Street in downtown Winters is already a relatively pedestrian – and bicycle – friendly area, with slower moving and lower traffic volumes. This could be supplemented by other improvements such as providing bike racks and lockers near destinations such as shops, the library, and City Hall.

- The Winters Joint Unified School District and the Winters Police Department have had a history of conducting bicycle education workshops for school children. The last event held was a bicycle rodeo in 1991. Since that time, no other formal bicycle safety or education programs have been held in Winters.

A map showing the locations of City Hall, schools, and other destinations in Winters is shown in Figure 1.

## 2.2 Opportunities and constraints

Information on opportunities and constraints for bicyclists has come from a variety of sources, including field observations. Many general and site specific comments have been collected, which help to form an idea of the type of system and specific improvements that will be required. Comments can generally be summarized into the following statements:

### Opportunities

- Quieter local streets offer an alternative to using Grant Avenue (S.R. 128) for most bicyclists.
- As a smaller city at the cross roads of several transportation corridors – including the major route leading to Lake Berryessa – the City has the opportunity to attract visitors to stop and visit the City en route to other destinations.
- The agricultural surroundings are close to most neighborhoods, and offer the excitement of off-road bicycling and hiking and views of Winters and its surroundings.
- The parks and Community Center serves as major attractors to residents, especially children who have the opportunity to ride their bicycles to events from most neighborhoods.







## Constraints

- There is a lack of adequate short- or long-term secure bicycle parking.
- The S.R. 128 over crossing of I-505, while not technically in Winters, is a major constraint for any bicyclist entering or leaving Winters. The over crossing is narrow and does not provide adequate width for bicyclists.
- The Railroad Avenue vehicle bridge, which crosses Putah Creek, that is also a narrow structure requiring bicyclists to share travel lanes with vehicles.
- Like streets in all cities and towns, there is some debris and gravel thrown by vehicles onto the right side of streets occasionally forcing bicyclists to ride in travel lanes.
- Another common phenomenon in Winters is younger bicyclists riding on the wrong side of the road, crossing at unmarked crossings, or riding at higher speeds on sidewalks. This typically points to the need to enhance education and enforcement.

These lists represent a summary and sample of opportunities and constraints in Winters, and can be updated as part of future plan revisions.

## 2.3 Needs Analysis

In early 1998, an advisory committee was formed to oversee the completion of the City's first Bikeway System Master Plan. The Plan received full public noticing, was placed on the Planning Commission and City Council agendas, and received review including open comment periods at four public meetings before being adopted on November 3, 1998. This Update builds on the initial Bikeway System Master Plan.

The purpose of reviewing the needs of recreational and commuter bicyclists is twofold: (a) it is instrumental when planning a system which must serve both user groups and (b) it is useful when attempting to quantify future usage and benefits to justify expenditures of resources. According to a May 1991 Lou Harris Poll, it was reported that *"...nearly 3 million adults – about one in 60 – already commute by bike. This number could rise to 35 million if more bicycle friendly transportation systems existed."* In short, there is a large reservoir of potential bicyclists who don't ride (or ride more often) simply because they do not feel comfortable using the existing street system.

A common term used in analyzing the demand or need for bicycle or pedestrian facilities is "mode split". Mode split refers to the choice of transportation a person selects to move from



home to work to shopping to other destinations. One major objective of any bicycle improvement is to increase the “split” or percentage of people who choose to ride rather than drive or be driven. Every saved vehicle trip or vehicle mile represents quantifiable reductions in air pollution. A summary of a needs analysis is presented below.

### Key Points

- A needs analysis helps identify the types of improvements needed, justifies expenditures on improvements, and quantifies information needed for several funding sources.
- Currently, nearly 3 million adults (about 1 in 60) commute by bicycle. This number could rise to 35 million if adequate facilities were provided (according to a 1991 Lou Harris Poll).
- The latent ‘need’ for bicycle and pedestrian facilities – versus actual bicyclists and pedestrians – is difficult to quantify; we must rely on evaluation of comparable communities to determine potential usage.
- Mode split refers to the choice of transportation people make whether for work or non-work trips. Currently, the average household in the U.S. generates about 10 vehicle trips per day. Work trips account for less than 30% of these trips on average.
- According to the 2000 U.S. Census, less than one percent of all employed Winters residents (which consists of workers 16 years and older) commute primarily by bicycle. This does not include those who ride less than 50% of the time. Thus, the bicycle commute rate in Winters is considerably lower than the rate of California and the United States as a whole. This figure is somewhat deceiving because it does include either younger or university students in Winters.
- The bicycle/walk commute mode share for Yolo County employees as a whole is 11.3 percent according to the 2000 U.S. Census. When the results from the City of Davis are subtracted from this total, the bicycle/walk commute mode share drops to 5.8 percent. The distances between residences and workplaces combined with the types of employment, climate, and available bicycle facilities all influence these commute shares. As Winters grows and additional local employment opportunities become available and better bicycle connections to Davis are provided, this mode share can be expected to increase to the state and national average.



The U.S. Department of Transportation, in their publication entitled “National Walking and Bicycling Study” (1995), sets as a national goal the doubling of current bicycling mode shares by the year 2010, assuming that a comprehensive bicycle system is in place. Since the national bicycle mode share is 1%, this will translate into a bicycle commute mode share of 2% in Winters or about 54 commuters. Add to this number to the estimated number of commuters who bicycle occasionally and the estimated number of students at local schools, and the average number of daily bicyclists in Winters increases to an estimated 250 bicycle commuters by 2010. These bicyclists will be saving an estimated 500 vehicle trips per day, 100,000 trips per year, and 180,000 vehicle miles per year. The benefit of these future bicycle commuters would result in emission reductions of 706 pounds of ROG, 453 pounds of NOx, and 92 pounds of PM10 in the year 2010.

- Walking and bicycling are two of the most popular forms of recreational activity in the United States, with 84% of Americans walking for pleasure and 46% bicycling for pleasure. These figures indicate that about 4,662 residents over the age of 9 in Winters would like to walk for pleasure and 2,553 would like to bicycle for pleasure. If nothing else, this indicates a latent demand for facilities and a potent constituency to push for better facilities.

**Table 1**  
**Demographics and Transportation**

|                                                      |                |
|------------------------------------------------------|----------------|
| Population (2000)                                    | 6,125          |
| Land Area (estimated)                                | 1,628 acres    |
| Population per Square Mile                           | 2,408          |
| Estimated Winters Residents who Walk for Pleasure    | 4,410          |
| Estimated Winters Residents who Bicycle for Pleasure | 2,415          |
| Current Bicycle Commute Mode Share (2000)            | .0037%         |
| Future Bicycle Commute Mode Share (2010)             | <b>2%</b>      |
| School-related Bicycle Commuters (2010)              | <b>170</b>     |
| Total Future Bicycle Commuters (2010)                | <b>250</b>     |
| Reduced Vehicle Trips/Year (2010)                    | <b>100,000</b> |
| Reduced Vehicle Miles/Year                           | <b>180,000</b> |
| Reduced ROG in lbs. (Year 2010)                      | <b>706</b>     |
| Reduced Nox in lbs. (Year 2010)                      | <b>453</b>     |
| Reduced PM10 in lbs. (Year 2010)                     | <b>92</b>      |



safety and security.

- Rather than be directed to side streets, most commuting cyclists would prefer to be given bike lanes or wider curb lanes on direct routes.
- Unprotected crosswalks and intersections in general are the primary concerns of all bicycle commuters.
- Many younger students use sidewalks for riding to schools or parks, which is acceptable in areas where pedestrian volumes are low and driveway visibility is high. Where on-street parking and/or landscaping obscures visibility, sidewalk riders may be exposed to a higher incidence of accidents. Older students who consistently ride at speeds over 10 mph should be directed to riding on-street wherever possible.
- Students riding the wrong-way on-street are common and account for many recorded accidents, pointing to the need for education.

## **2.4 Accident Analysis**

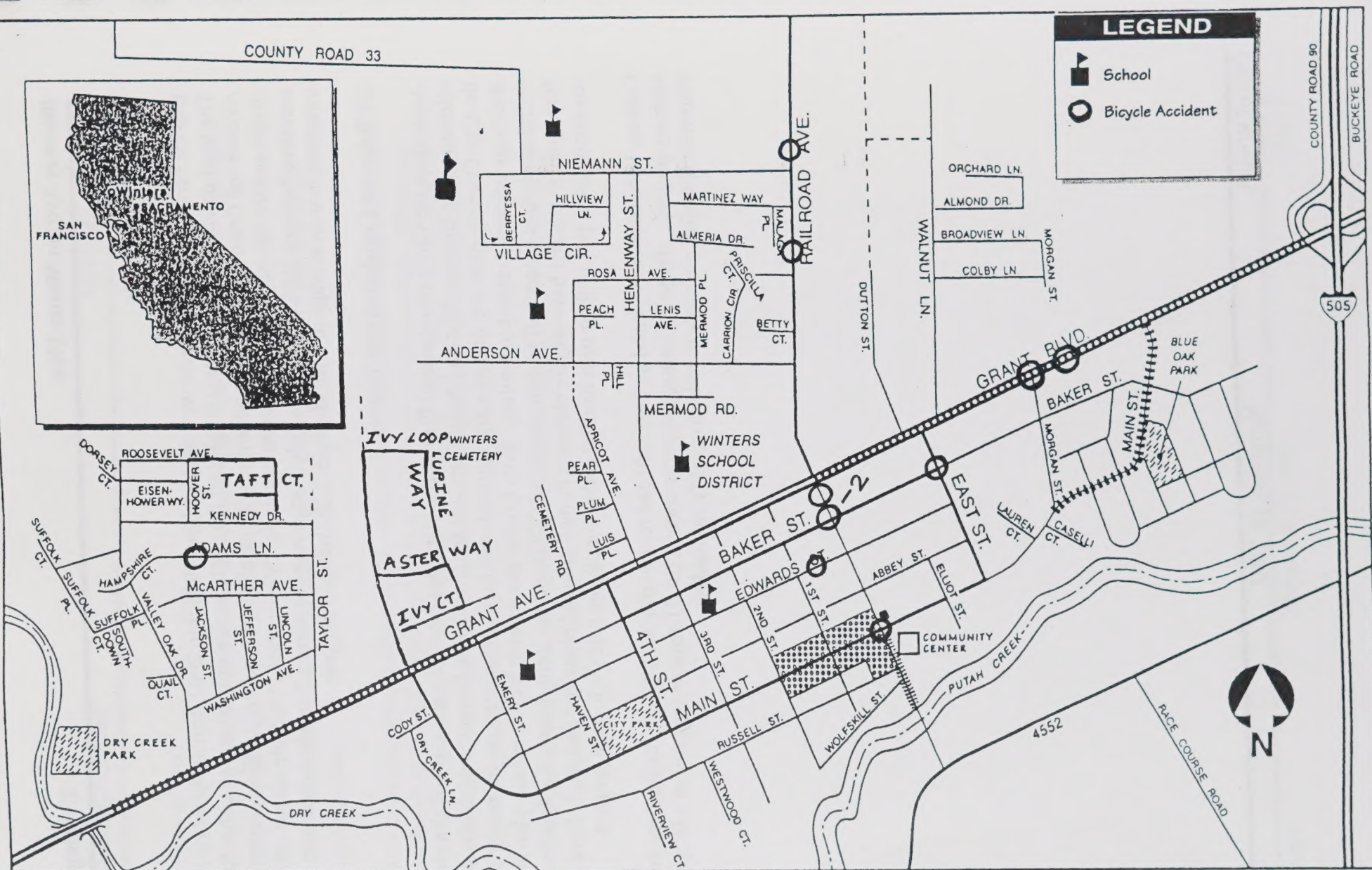
Bicycle versus vehicle accidents were studied from 1998 thru 2001, and analyzed by location. The most notable pattern was that 80 percent (9) of the accidents occurred on either Railroad Avenue and Grant Avenue. This pattern may be attributed to the high traffic volumes on these streets and the increased speeds in some instances. Winters had 11 bicycle versus vehicle accidents between 1998 and 2001, which is an average of almost 3 accidents per year. This translates into an average of 1 accident per 2,227 persons per year.

## **2.5 Relevant Legislation and Policies**

Aside from the City's own General Plan which identifies specific goals and policies that are relevant to the Bikeway System Master Plan, and the Circulation Element which was adopted by the City Council, there are several state, regional, and federal requirements for master plans which are primarily related to funding. Yolo County has its own bicycle master plan and the Sacramento Area Council of Governments (SACOG) and the Yolo-Solano Air Quality Management District have bicycle elements in their adopted plans and frequently have specific requirements as part of their own funding and/or regulatory role for bicycle projects.

Caltrans has historically played an oversight and review role for TEA 21 funding programs for bikeway projects. Bicycle funding programs under TEA 21 require approval of a Bicycle Master Plan with specified elements in order to qualify for funding.





City of Winters  
FIGURE 2

Reported Bicycle Accidents,  
1998-2001



On a state level, according to the California Bicycle Transportation Act (1994), all cities and counties should have an adopted bicycle and pedestrian master plan that contains:

- Estimated number of existing and future bicycle commuters (see page 18)
- Existing and proposed land use (see appendix A)
- Existing and proposed bikeways (see page 15 & 27)
- Existing and proposed end-of-trip bicycle parking facilities (see page 24)
- Existing and proposed multi-modal connections (see page 36)
- Existing and proposed facilities for changing and storing clothes and equipment (see pages 13 & 24)
- Bicycle safety and education programs (see pages 14, 35, & 65)
- Citizen and community participation (see page 16)
- Consistency with local or regional transportation, air quality, or energy conservation plans (see page 4)
- Proposed projects and priority rankings (see page 26)
- Past expenditures and future financial needs (see page 79)

In addition to these required elements, the *Caltrans Highway Design Manual* contains specific design guidelines which must be adhered to in California. Chapter 1000: Bikeway Planning and Design of the Manual sets the basic design parameters of on-street and off-street bicycle facilities, including mandatory design requirements.

## 2.6 Bicycle Parking

Bicycle parking includes bike racks, lockers, and corrals. Racks are low cost devices that typically hold about eight bicycles, allow bicyclists to securely lock their frames and wheels, are secured to the ground, and are located in highly visible areas. Bike lockers are covered storage units that typically accommodate one bicycle per locker, and provide additional security and protection from the elements. Bike racks are most often found in commercial areas where regular commuters can take advantage of the multi-modal connections and feel safe in leaving their bicycle. Bike corrals can be found at schools, special events, and other locations, and typically involve a movable fencing system that can safely store numerous bicycles. Security is provided by either locking the enclosure or locating it near other activities so that it can be supervised.

A field review of Winters revealed bike racks for bicyclists at parks and schools. Most of the racks are in fenced corral areas at schools, and appear to be used by students. Two bike lockers able to accommodate four bicycles are located at the northeast corner of Railroad Avenue and East Main Street. Otherwise, bicyclists visiting stores, restaurants, places of employment, and community facilities are largely left to their own devices to temporarily store their bicycles. The



Bikeway System Master Plan does not propose additional bicycle parking or other support facilities for bicyclists.

### 3.0 Proposed Bikeway Projects and System

The recommended bikeway system consists of a system of routes connecting residential neighborhoods in Winters with the schools, parks, Community Center, library, downtown, and other destinations. The proposed system is shown in Figure 3.

The top four (4) fundable projects were selected by staff and consultants based on their experience, the orientation of funding programs, and the planning criteria outlined in the Master Plan (coverage, connectivity, user groups, implementation, local input, funding sources). These projects are:

**Southern Pacific Railroad Trestle**

**Railroad Avenue**

**Third Street/Hemenway Street/Niemann Street Bikeway**

**Putah Creek Pathway**

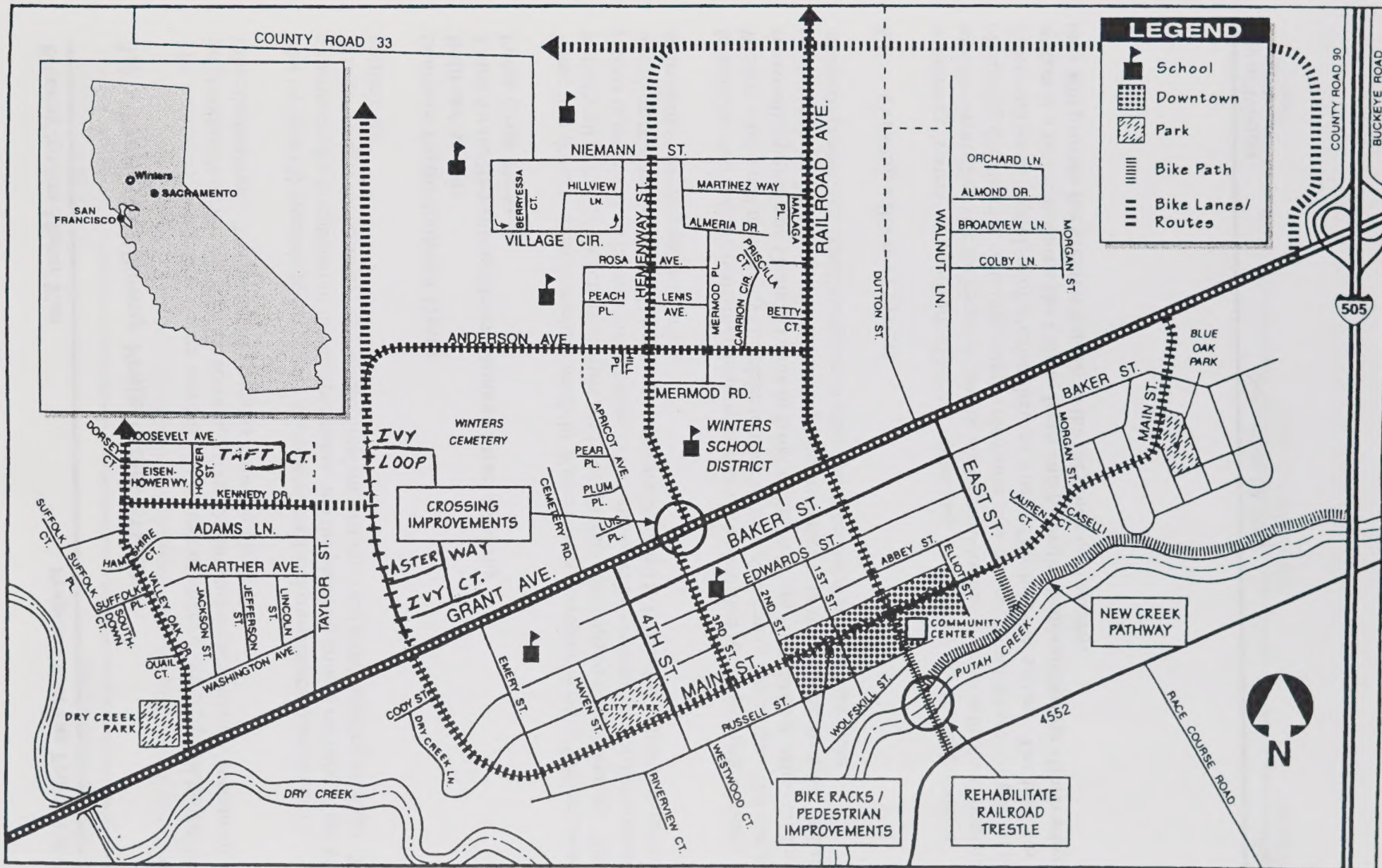
These four projects meet immediate needs in Winters, help overcome existing barriers, serve virtually all of the City's activity centers, and link all four quadrants of the community. Each project is presented on its own project sheet, which provides key information on the proposal including cost and location. The project sheets are designed to be used as a direct resource and addendum to funding applications.

In addition, two specific pedestrian improvements were identified which will help to make Winters a safer and more enjoyable place to walk to transportation or recreation. The first is a **crosswalk upgrade on Grant Avenue in front of the Winters High School**, primarily for safety purposes. The second are **streetscape improvements in the downtown area**, including enhanced crosswalks, landscaping, street trees and street furniture, and bike racks.

#### 3.1 Creating a Bikeway System

A bikeway "system" is a network of bicycle routes that, for a variety of reasons, provide a superior level of service for bicyclists and/or are targeted for improvements by the City as a result of existing deficiencies. It is important to recognize that, by law, bicyclists are allowed on all streets and roads regardless of whether they are a part of the bikeway system. **The bikeway system is a tool that allows the City to focus and prioritize implementation efforts where they will provide the greatest benefit to the bicycling community.**





City of Winters

FIGURE 3

## PROPOSED BIKEWAY SYSTEM

**alta**  
LANDING 711 CM 812 CM 101 CM



There is an established methodology for selecting a bikeway system for any community. The primary method is to receive input from the local bicycling community and local staff familiar with the best routes and existing constraints and opportunities. Input can be received through a variety of means, but typically is through the public workshop format. Surveys of bicyclists and the community as a whole can also serve a valuable role in this process as well.

The following criteria are typically used to develop a bicycle system:

1. Existing Bicycling Patterns
  - a. Connectivity
2. Traffic volumes and travel speeds
3. Amount of side friction (driveways, side streets)
4. Curb-to-curb width
5. Pavement condition
6. Access from residential areas
7. Number of destinations served
  - a. Schools
  - b. Parks
  - c. Employment centers
  - d. Multi-modal terminal at Rotary Park
8. Topography
9. Integration into the regional system
10. Adjacent land use
11. On-street parking
12. Accident data and safety concerns
13. Existing bottlenecks or constraints
14. Existing opportunities such as planned roadway improvements

The Winters bikeway system was relatively easy to develop because of the small size of the community, and the street grid pattern which offered several distinct through corridors which connected residential areas with activity centers such as downtown, schools, and parks. In addition, safety was a factor in selecting the Winters High School Crossing Improvements. The Southern Pacific Railroad Trestle, which crosses Putah Creek, also offered a unique opportunity to (a) overcome the constraint of the parallel Railroad Avenue vehicle bridge that also crosses Putah Creek, (b) utilize an existing City-owned historic landmark, and (c) enhance the connection to the regional bikeway system.

Once a bikeway system has been identified, the greatest challenge is to identify the top segments that will offer the greatest benefit to bicyclists in the next five years. Aside from the criteria used in developing the system as a whole, selection of these top projects is based on (a) cost and



construction feasibility given existing traffic, safety, and environmental constraints, (b) need and benefit, and (c) strength of the project as measured by specific funding criteria.

Finally, it is important to remember that the bikeway system and the top projects are flexible concepts that serve as guidelines to those responsible for implementation. The system and segments themselves will change over time as a result of changing bicycling patterns and implementation constraints and opportunities.

## City of Winters

Southern Pacific Railroad  
Trestle

Length: 370'

## Activity Centers Served:

|                     |   |
|---------------------|---|
| Schools             | 0 |
| Parks               | 1 |
| Community Centers   | 1 |
| Employment Centers  | 1 |
| Transit Connections | 1 |

## Potential Usage:

|                  |                     |
|------------------|---------------------|
| Recreational use | 1,700 persons/week  |
| Commuter use     | 100-150 persons/day |

## Responsibility:

Department of Public Works (Design &amp; Construction)

## Timing:

2003 - 2005

## Cost Estimate:

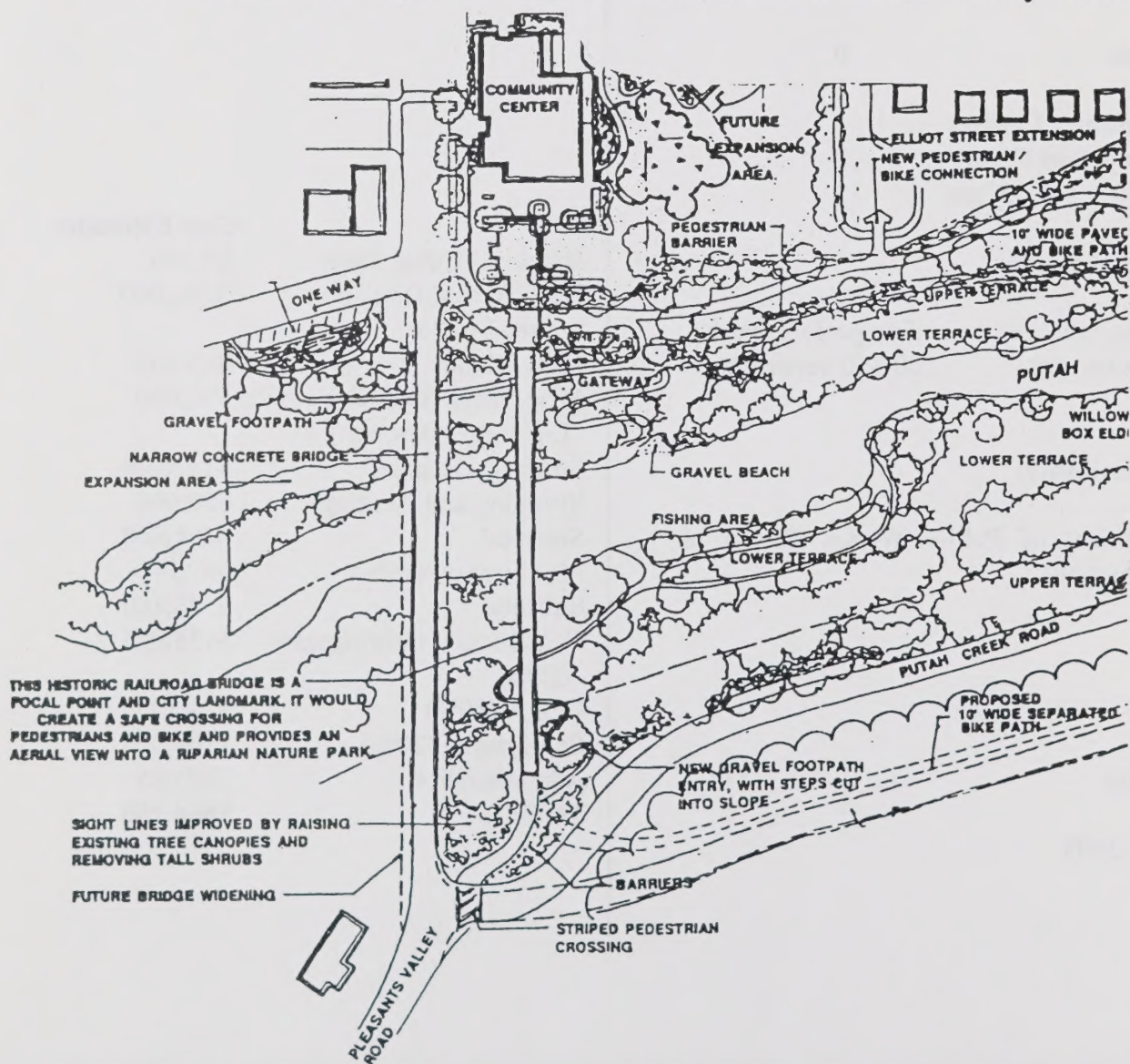
|                                                  |                  |
|--------------------------------------------------|------------------|
| Remove Timber Deck                               | \$5,000          |
| New Treated Doug Fir<br>Larch Timber             | \$246,000        |
| Misc. Metals                                     | \$15,000         |
| Misc. Items (including<br>Lighting, gates, etc.) | \$35,000         |
| Structural Repairs                               | \$140,000        |
| Stripping and Painting                           | \$50,000         |
| <b>Subtotal</b>                                  | <b>\$491,000</b> |
| Mobilization (10%)                               | \$49,100         |
| <b>Subtotal</b>                                  | <b>\$540,100</b> |
| Construction Contingency<br>(25%)                | \$135,025        |
| CEQA (10%)                                       | \$54,100         |
| Engineering (20%)                                | \$108,020        |
| Administration                                   | \$27,005         |
| <b>TOTAL</b>                                     | <b>\$864,160</b> |



## City of Winters

Southern Pacific Railroad  
Trestle

Excerpt from Putah Creek Nature Park Master Plan showing connections to the Southern Pacific Railroad Trestle from the proposed Putah Creek Pathway, Railroad Avenue, and Pleasants Valley Road.



## City of Winters

Railroad Avenue  
Bikeway

Length: 6,700'  
(1.27 miles)

## Activity Centers Served:

|                     |   |
|---------------------|---|
| Schools             | 1 |
| Parks               | 0 |
| Community Centers   | 1 |
| Employment Centers  | 1 |
| Transit Connections | 1 |

## Potential Usage:

|                  |                     |
|------------------|---------------------|
| Recreational use | 1,000 persons/week  |
| Commuter use     | 150-210 persons/day |

## Responsibility:

Department of Public Works (Design & Construction)

## Timing:

2004 - 2006  
Future Roadway Improvements

## Cost Estimate:

|                            |                  |
|----------------------------|------------------|
| Demolition                 | \$ 3,650         |
| Traffic/Bike Lane Striping | \$ 6,690         |
| Pavement Markings          | \$ 1,825         |
| Crosswalks/signs           | \$ 6,080         |
| Other Items <sup>1</sup>   | \$ 2,435         |
| <b>Subtotal</b>            | <b>\$ 20,680</b> |
| Design/Contingency (30%)   | \$ 6,205         |
| <b>TOTAL</b>               | <b>\$ 26,885</b> |

<sup>1</sup> Includes Traffic Control, Environmental Mitigation, and Clean Up



**City of Winters****Third Street/Hemenway  
Street/Niemann Street  
Bikeway**

|                |                 |                     |
|----------------|-----------------|---------------------|
| <b>Length:</b> | Third Street    | 1,200'              |
|                | Hemenway Street | 2,600'              |
|                | Niemann Street  | 2,200               |
|                | <b>Total</b>    | <b>6,000'</b>       |
|                |                 | <b>(1.14 miles)</b> |

**Activity Centers Served:**

|                            |          |
|----------------------------|----------|
| <b>Schools</b>             | <b>5</b> |
| <b>Parks</b>               | <b>1</b> |
| <b>Community Centers</b>   | <b>0</b> |
| <b>Employment Centers</b>  | <b>0</b> |
| <b>Transit Connections</b> | <b>0</b> |

**Potential Usage:**

|                  |                     |
|------------------|---------------------|
| Recreational use | 1,000 persons/week  |
| Commuter use     | 150-210 persons/day |

**Responsibility:**

Department of Public Works (Design & Construction)

**Timing:**

2004 - 2006

**Cost Estimate:**

|                            |           |               |
|----------------------------|-----------|---------------|
| Bike Lane Striping/Signing | \$        | 9,120         |
| Crosswalks/signs           | \$        | 1,825         |
| <b>Subtotal</b>            | <b>\$</b> | <b>10,945</b> |
| Design/Contingency (30%)   | \$        | 3,285         |
| <b>TOTAL</b>               | <b>\$</b> | <b>14,230</b> |

## City of Winters

## Putah Creek Pathway

**Length:** 3,522'  
(0.67 miles)

### Activity Centers Served:

|                            |   |
|----------------------------|---|
| <b>Schools</b>             | 0 |
| <b>Parks</b>               | 1 |
| <b>Community Centers</b>   | 1 |
| <b>Employment Centers</b>  | 1 |
| <b>Transit Connections</b> | 1 |

### Potential Usage:

|                  |                     |
|------------------|---------------------|
| Recreational use | 1,700 persons/week  |
| Commuter use     | 100-150 persons/day |

### Responsibility:

Department of Public Works (Design & Construction)

### Timing:

2005 - 2009

### Cost Estimate:

|                    |                   |
|--------------------|-------------------|
| Trail Construction | \$ 65,122         |
| Materials          | \$ 24,654         |
| Engineering        | \$ 19,000         |
| Equipment Rentals  | \$ 8,680          |
| <b>Subtotal</b>    | <b>\$ 127,456</b> |
| Contingency (20%)  | \$ 25,492         |
| <b>Total</b>       | <b>\$ 152,948</b> |



### **3.2 Bicycle Parking and Other Support Facilities**

Bike racks are provided at local schools in Winters, but overall the lack of safe and secure bicycle parking is a concern of bicyclists who may wish to ride to work or shops in town. Theft and vandalism of bicycles, especially now that bicycles are often worth in excess of \$500 or \$1,000 is a major impediment to bicycle riding. Bicycle parking includes standard bike racks, covered lockers, and corrals. A systematic program to improve the quality and increase the quantity of bicycle parking facilities is required in Winters. The proposed performance standards to supplement grant programs are presented in the following actions.

#### **Standard 1:**

**Bike racks and lockers should be provided at all public destinations, including the bus station, community center, parks, schools, and City Hall. All bicycle parking should be in a safe, secure, covered area (if possible). Commuter locations should provide secure indoor parking, covered bicycle corrals, or bicycle lockers. A program to fund and install these facilities should be started immediately as a joint-agency project in Winters .**

#### **Standard 2:**

**All new commercial development or redevelopment in excess of 10,000 gross leasable square feet should be required to provide one approved bicycle rack per 30 employees. All bicycle racks should be located in safe, secure, covered areas, be anchored to the ground, and allow bicycles to lock both frame and wheels.**

#### **Standard 3:**

**Bicycle parking locations in downtown and other employment areas (such as parking lots) where centralized public covered bicycle parking identified in this plan (see Figure 4) should be installed. These facilities may charge a small user fee and/or be subsidized by nearby employers.**

#### **Standard 4:**

**A special program to construct bicycle corrals at all elementary, intermediate, middle, and high schools in Winters should begin immediately. These simple enclosed facilities are locked from the beginning to the end of school, and address the theft and vandalism concerns of students.**

### 3.3 Multi-modal Facilities

Yolo Bus, which provides bus service to Yolo County cities and communities, has a number of bicycle carriers on its buses. Winters is served by Yolo Bus every day and the buses that travel to the City frequently contain bicycle carriers. No new facilities are planned at this time.



## 4.0 Design and Performance Standards

This chapter provides details on the recommended design and operating standards for the Winters Bikeway System, along with implementation guidelines for on-street and off-street facilities.

### 4.1 Existing Bicycle Design Standards and Classifications

National design standards for bikeways have been developed by the American Association of Highway and Transportation Officials (AASHTO) and the California Department of Transportation (Caltrans). The Caltrans Highway Design Manual, Chapter 1000: Bikeway Planning and Design, serves as the official design standard for all bicycle facilities in California. Design standards in Chapter 1000 fall into two categories, mandatory and advisory. Caltrans advises that all standards in Chapter 1000 be followed, which also provides a measure of design immunity to the City. Not all possible design options are shown in Chapter 1000. For example, intersections, ramp entrances, rural roads, and a variety of pathway locations are not specified in the Caltrans Highway Design Manual.

The following section summarizes key operating and design definitions:

|                          |                                                                                                                                                                                         |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Bicycle</b>           | A device upon which any person may ride, propelled exclusively by human power through a belt, chain, or gears, and having either two or three wheels in tandem or tricycle arrangement. |
| <b>Class I Bikeway</b>   | Variously called a bike path or multi-use trail. Provides for bicycle travel on a paved right-of-way completely separated from any street or highway.                                   |
| <b>Class II Bikeway</b>  | Referred to as a bike lane. Provides a striped lane for one-way travel on a street or highway.                                                                                          |
| <b>Class III Bikeway</b> | Referred to as a bike route. Provides for shared use with pedestrian or motor vehicle traffic.                                                                                          |

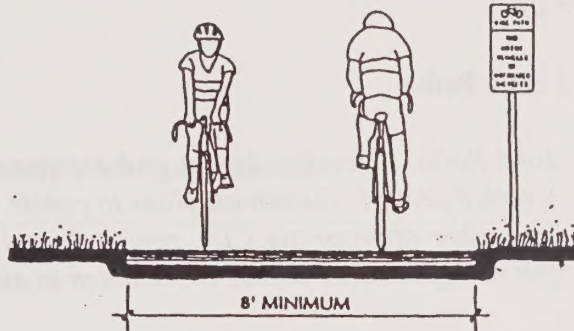
Graphic descriptions of Class I, II, and III bikeways are shown in Figure 4.

### 4.2 General Design Recommendations

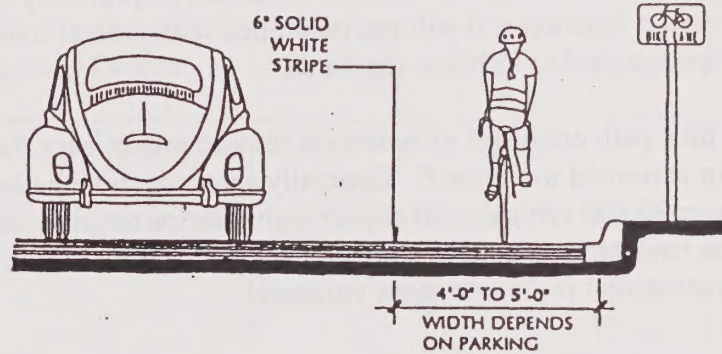
*Action #1: Conform to Caltrans Design Guidelines for All Bikeways*

1. All designated Class I, II, or III bicycle facilities should conform to the Caltrans Highway

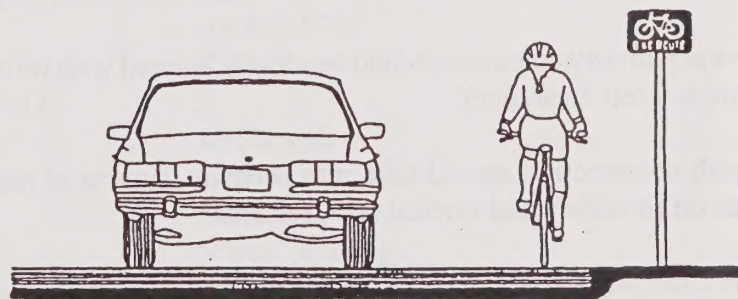
## BIKE PATH



## BIKE LANE



## BIKE ROUTE



No Scale  
Source: RHAA

Figure 4: Bike Paths, Lanes, Routes



Design Manual Chapter. Where facilities do not meet this criteria, they should not be referred to as a Class I, II, or III.

#### 4.3 Class I Bike Paths

*Action #2: Bike Paths. Develop design and environmental studies for the proposed Putah Creek Pathway. Submit all plans to public works, parks and recreation, planning, and other appropriate City, regional, and state agencies. Consideration of the following elements should be included in all pathway feasibility studies.*

1. All Class I bike paths should generally conform to the design recommendations in Table 2 and Figure 5.
2. Multi-use trails and unpaved facilities that serve primarily a recreation rather than a transportation function and will not be funded with federal transportation dollars may not need to be designed to Caltrans standards.
3. Class I bike path crossings of roadways require preliminary design review. A prototype design is presented in Figure 6. Generally speaking, bike paths that cross roadways with ADTs over 20,000 vehicles will require signalization or grade separation. No bike paths or multi-use trails are proposed to cross Grant Avenue (S.R. 128) in Winters, which represents the only street that is close to these volumes.
4. Landscaping should generally be low water, native vegetation.
5. Lighting should be provided where the bike path will be used by commuters.
6. Barriers at pathway entrances should be clearly marked with reflectors and ADA accessible (minimum 5 feet clearance).
7. Bike path construction should take into account impacts of maintenance and emergency vehicles on shoulders and vertical requirements.
8. Provide 2 feet wide unpaved shoulders for pedestrians/runners, or a separate tread way where feasible. Direct pedestrians to right side of pathway with signing and stenciling.
9. Provide adequate trailhead parking and other facilities such as restrooms, drinking fountains at appropriate locations.
10. Sidewalk bike paths or pathways parallel to roadways should be discouraged, especially

**Table 2: Class I Bike Path Specifications****Class I Bicycle Path Specifications**

|                                 |                     | Thickness |             |
|---------------------------------|---------------------|-----------|-------------|
| Pavement Type:                  | Recycled Asphalt(1) | 3"        | 7.5 cm      |
|                                 | Asphalt(1)          | 3"        | 7.5 cm      |
|                                 | Concrete            | 3"        | 7.5 cm      |
| Sub-base:                       | Granite             | 4-6"      | 10-15 cm    |
|                                 | Gravel              | 4-6"      | 10-15 cm    |
| Shoulders:                      | Decomposed Granite  | 4-6"      | 5-10 cm     |
| <hr/>                           |                     |           |             |
| Width:                          |                     |           |             |
| Minimum                         | 8'                  |           | 2.5 cm      |
| Preferred                       | 12'                 |           | 3.5 cm      |
| Shoulders:                      | 2'-3'               |           | 75 cm – 1 m |
| Lateral Clearance               | 2'-3'               |           | 75 cm – 1 m |
| Vertical Clearance              | 8'                  |           | 2.5 m       |
| W/Equestrians                   | 12'                 |           | 3.5 m       |
| Striping (solid yellow line)    | 4"                  |           | 8 cm        |
| Signing                         | see MUTCD           |           |             |
| Cross Slope                     | 2%                  |           |             |
| Min. Separation from Roadway(2) | 5'                  |           |             |
| Design Speed                    | 15-20 mph           |           |             |
| Maximum Superelevation          | 12%                 |           |             |
| Maximum Grades                  | 5%                  |           |             |
| Barrier Posts                   | 5' min. spacing     |           |             |

(1) May be unsuitable for bike paths located in stream channels because of asphalt oils.

(2) Unless physical barrier provided.

Source: Caltrans Highways Design Manual, Chapter 1000



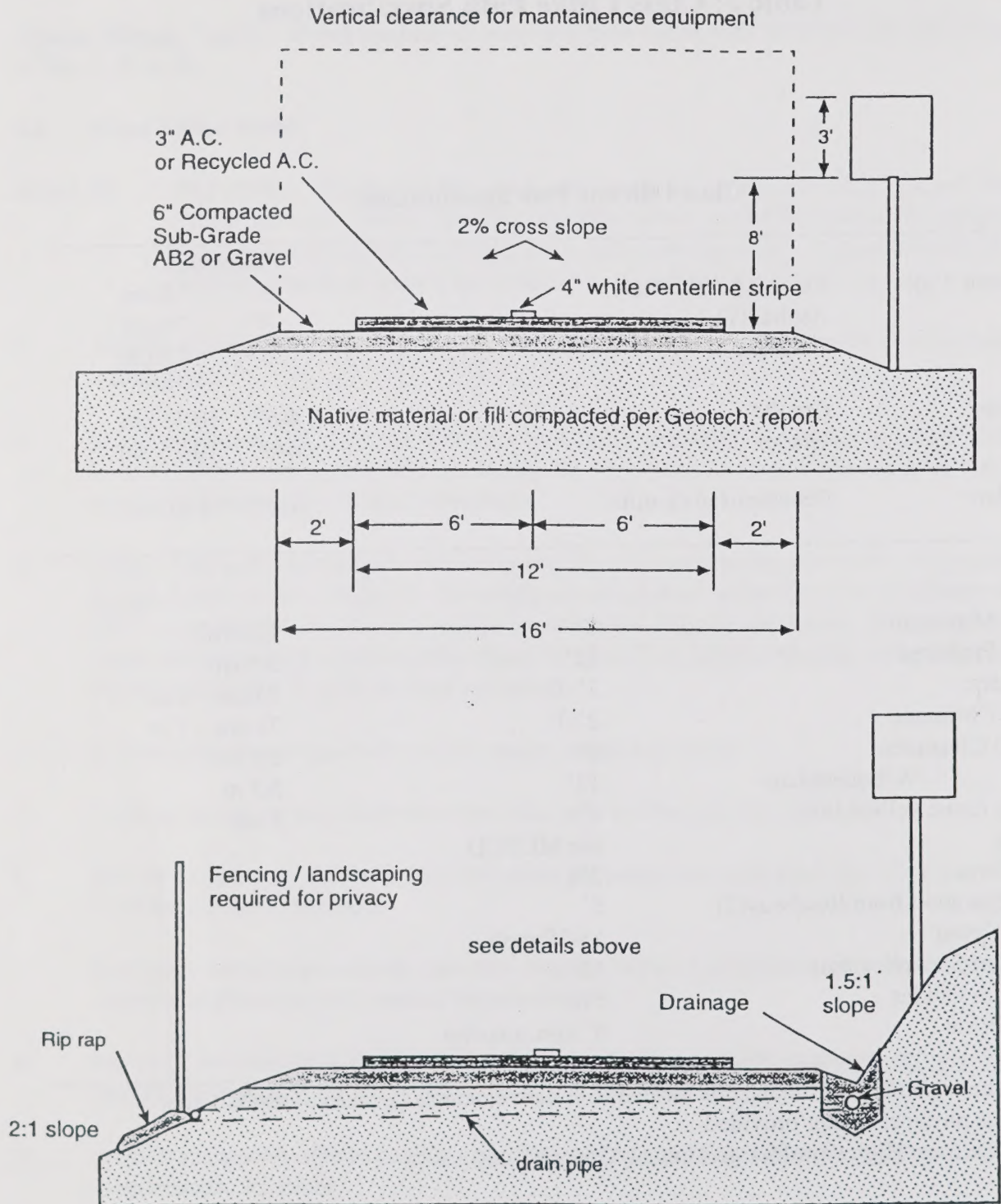


Figure 5: Class I Bicycle Path Cross Section

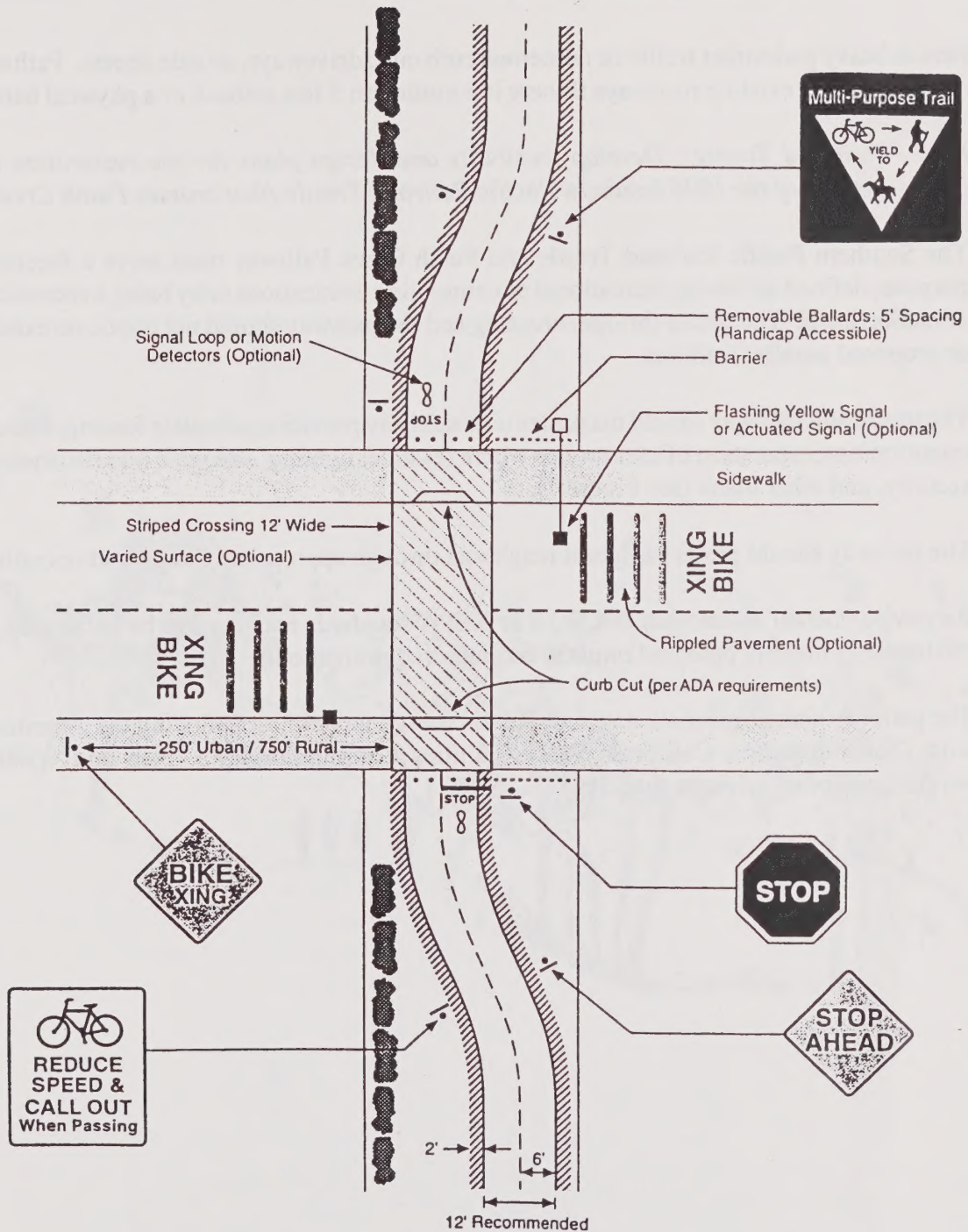


Figure 6: Class I Bicycle Path Crossing Prototype



where there is heavy pedestrian traffic or numerous curb cuts, driveways, or side streets. Pathways may be located next to existing roadways if there is a minimum 5 feet setback or a physical barrier.

*Action #3: Railroad Trestle. Develop feasibility and design plans for the restoration and retrofit of the 1906 Southern Pacific Railroad Trestle (that crosses Putah Creek).*

1. The Southern Pacific Railroad Trestle and Putah Creek Pathway must serve a functional purpose, defined as linking recreational or commuting destinations or by being a recreational attraction itself. The trestle (bridge) crossing and the pathway should not duplicate existing or proposed parallel facilities.
2. The trestle and pathway should maximize user safety by providing adequate fencing, crossing opportunities, separation of user groups where feasible, lighting, adequate maintenance and security, and other items (see Figure 7).
3. The pathway should protect adjacent neighbors through appropriate design and operation.
4. An environmental assessment to CEQA or NEPA standards may need to be performed for the trestle to identify potential impacts and required mitigations.
5. The pathway should meet all state and federal design guidelines, including the Americans with Disabilities Act, California Public Utilities Commission, U.S. Fish and Wildlife Service, and other relevant agencies.



**Figure 7: Creekside Pathway Cross Section**



#### 4.4 On-Street Bikeway Implementation Steps

The translation of a bikeway system map to actual improvements in the field is generally under the purview of the City's Department of Public Works (DPW). Aside from meeting specific roadway standards for motor vehicle traffic, the Department of Public Works must consider on-street parking, drainage, pedestrian movement, signals, traffic volumes and speeds, roadway capacity and level of service, mixture of trucks, maintenance, among a variety of items.

One goal of the Bikeway System Master Plan is to enhance bicycling conditions on the entire City street system. The following implementation steps are recommended for each proposed corridor, which may have roadway conditions (lane width, traffic volumes, etc.) that vary every block.

*Action #4: Perform a Preliminary Design Study*

A preliminary design study of the top priority bikeway corridors is included in this plan. The recommendations must be reviewed and approved by the DPW, collecting the following information for review: (a) as-built plans (if available), (b) curb-to-curb widths, (c) total public right-of-way width, (d) lane configuration, (e) location of all surface utilities, (f) ADT volumes, and (g) posted speeds and average speeds. Some of this data collection work has been conducted as part of this plan.

*Action #5: Install Bike Lanes Where Feasible*

Where an entire corridor has an existing curb lane of at least 17 feet and ADT volumes over 2,000 vehicles per day, select a Class II bike lane treatment. Streets with volumes under 2,000 vehicles per day do not require bike lanes and may be signed as Class III bike routes. Bike lanes must be able to be installed at minimum lengths of one half (½) mile, otherwise Class III bike route treatments should be selected. Where curb lanes are less than 17 feet, examine existing striping and on-street parking. Travel and parking lane standards are shown in Table 3 below.

|                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------|
| Table 3<br>Actions to Install Bike Lanes<br>(subject to approval of City Engineer)                                       |
| 1. Review current ADT and peak hour traffic volumes: eliminate unneeded travel lanes based on long term traffic volumes. |
| 2. Review current turning movements. Remove continuous median turn lanes where turning movements are low.                |
| 3. Review current on-street parking. Consider the removal of on-                                                         |



|                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Table 3</p> <p>Actions to Install Bike Lanes</p> <p>(subject to approval of City Engineer)</p>                                                                                                       |
| street parking when peak demand is less than 20%.                                                                                                                                                       |
| 4. Reduce all travel lanes to 12 feet. Where ADTs are between 5,000 and 10,000 ADT, consider reducing lanes to 11 feet. Where ADTs are under 5,000 vehicles, consider reducing travel lanes to 10 feet. |
| 5. Reduce median turn lanes to 12 feet on arterials, 11 feet on collectors.                                                                                                                             |
| 6. Complete bike lane striping and signing plan.                                                                                                                                                        |

*Action #6: Install Class III Bike Route*

Where Class II bike lanes cannot be installed after the steps described above, or where ADT volumes are under 2,000 vehicles per day, a Class III route should be installed. Caltrans describes Class III bike routes as providing a continuous bikeway system on corridors where bike lanes are either not feasible or required. The decision to sign a bicycle route should be based on the advisability of encouraging bicycle travel in the corridor, based on existing usage by bicycles, comparative directness and comfort of the route compared to other alternative corridors, lower traffic volumes and speeds, wider curb lanes, presence of intersection control measures, a higher level of maintenance, surface imperfections or irregularities removed, and/or lack of on-street parking. While Caltrans only identifies signing for bike routes, maximizing the width of the curb lane is considered an essential element of this plan. Minimum curb lane widths are described in the Federal Highway Administration document "Selecting Roadway Design Treatments to Accommodate Bicycles" and in Table 4 below.

|                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Table 4</p> <p>Actions to Install Class III Bike Routes</p> <p>(subject to approval by City Engineer)</p>                                                                                                               |
| 1. Review steps described in Table 1 for bike lanes concerning eliminating or reducing travel and parking lanes.                                                                                                           |
| 2. Provide a minimum of 12 feet curb lane on all local and collector streets with adequate sight distance, an average mix of truck/bus traffic, average speeds under 30 mph, and ADTs under 10,000 vehicles per day (vpd). |



Table 4

## Actions to Install Class III Bike Routes

(subject to approval by City Engineer)

3. Provide a minimum 14 feet wide curb lane on all local and collector streets with adequate sight distance, an average mix of truck/bus traffic, average speeds under 40 mph, and ADTs over 10,000 vpd.

4. Provide a minimum of a 15 feet wide curb lane on all collector and arterial streets with adequate sight distance, an average mix of truck/bus traffic, average speeds over 40 mph, and ADTs over 10,000 vpd.

*Action #7: Make Changes to Bikeway System*

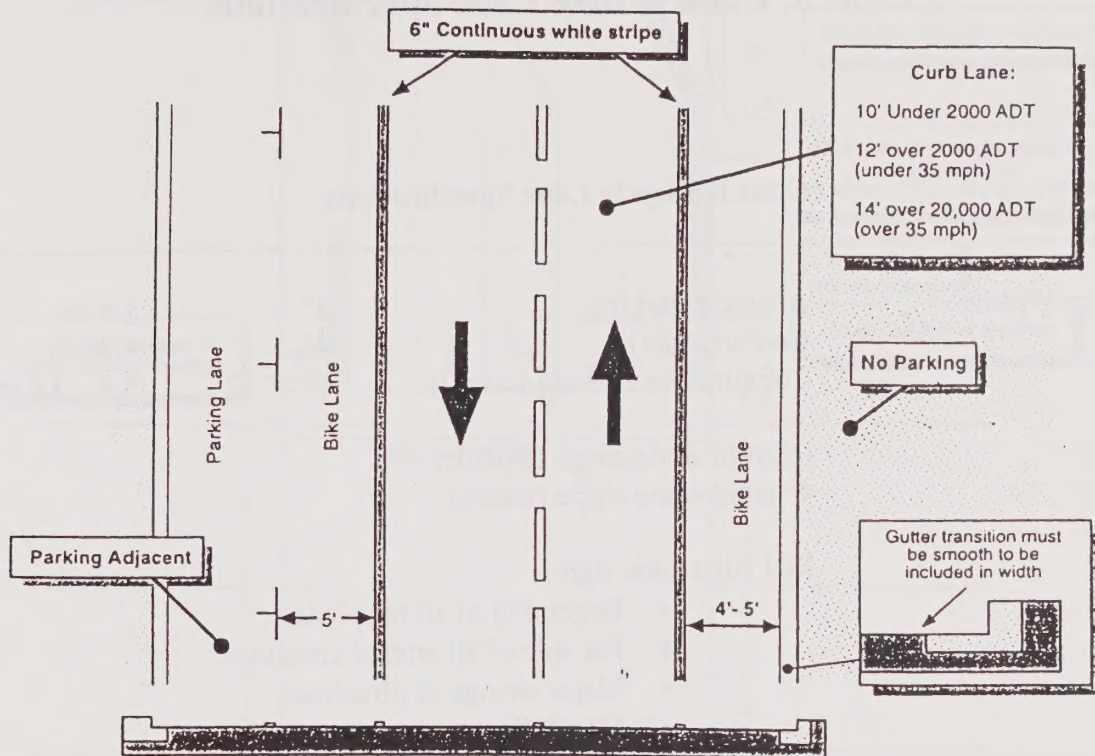
Where bike lanes or bike routes that meet the curb lane standards identified in Table 3 cannot be met, an alternate route for less experienced bicyclists needs to be identified. The City may consider changing the primary route altogether to a street with less traffic, lower speeds, and/or more right-of-way.

#### 4.5 Class II and III Bikeway Design Guidelines

Actions #5-8 detailed the progressive steps that are required to determine whether Class II bike lanes or Class III bike routes are feasible on the bikeway system. Table 5 (Class II bike lane design specifications) and Figure 8 (Class II Bike Lane Cross Section) provide graphic detail of Caltrans bike lane specifications. The following actions provide more information on specific projects.

*Action #8: Intersection and interchange treatment. Caltrans provides recommended intersection treatments in Chapter 1000 including bike lane "pockets" and signal loop detectors. The Department of Public Works should develop a protocol for the application of these recommendations, so that improvements can be funded and made as part of regular improvement projects. Figure 9 (Class II Bike Lanes at Intersections) and Figure 10 (Recommended Right Turn Channelization) provides details for recommended intersection treatments.*

*Action #9: Signal loop detectors should be considered for the Grant Avenue/Railroad Avenue.*



Minimum Street Widths to Accommodate Bike Lanes

|                                                                               | 2 - Lanes / Parking |     |     | 4 - Lanes / Parking |     |     | 6 - Lanes / Parking |     |      |
|-------------------------------------------------------------------------------|---------------------|-----|-----|---------------------|-----|-----|---------------------|-----|------|
|                                                                               | 0                   | 1   | 2   | 0                   | 1   | 2   | 0                   | 1   | 2    |
| > 2,000 ADT                                                                   | 28'                 | 35' | 44' | 48'                 | 56' | 62' | N/A                 | N/A | N/A  |
| 2,000 - 20,000 ADT                                                            | 32'                 | 41' | 50' | 56'                 | 65' | 74' | 80'                 | 89' | 98'  |
| 20,000 + ADT<br>Under 35 MPH                                                  | 32'                 | 41' | 50' | 56'                 | 65' | 74' | 80'                 | 89' | 98'  |
| 20,000 + ADT<br>Under 35 MPH                                                  | 36'                 | 45' | 54' | 60'                 | 69' | 78' | 84'                 | 93' | 102' |
| Note: Assumes curb to curb with smooth gutter transition. Assumes no medians. |                     |     |     |                     |     |     |                     |     |      |

Figure 8: Class II Bike Lane Cross Section



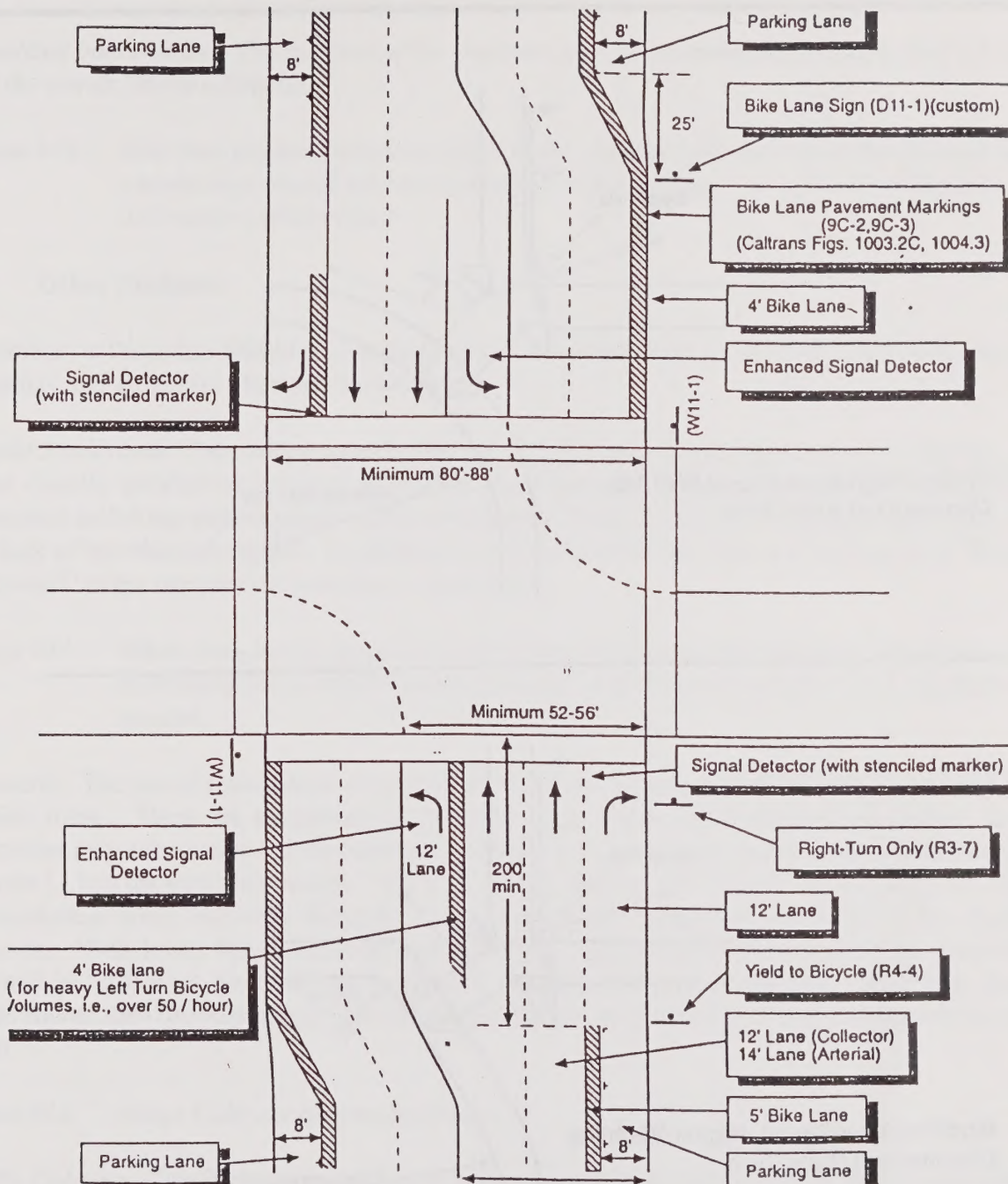
**Table 5: Class II Bike Lane Specifications****Class II Bicycle Lane Specifications**

|                   |                                      |                          |             |
|-------------------|--------------------------------------|--------------------------|-------------|
| Minimum Widths    | Adjacent Parking                     | 5'                       | 1.6 m       |
|                   | No Parking(1)                        | 4'                       | 1.25 m      |
|                   | Combination Parking Lane(2)          | 11' – 12'                | 3.4 – 3.6 m |
| Striping          | 6" solid white stripe (outside)      |                          |             |
|                   | 4" solid white stripe (inside)       |                          |             |
| Signing           | R81 Bike Lane sign                   |                          |             |
|                   | • Beginning of all bike lanes        |                          |             |
|                   | • Far side of all arterial crossings |                          |             |
|                   | • Major change of directions         |                          |             |
|                   | • Maximum ½ mile intervals           |                          |             |
| Pavement Markings | Bike Lane                            | Far side of intersection |             |
|                   | Directional Arrow                    | Far side of intersection |             |
| Dashed Lines      | 200' from intersection               |                          |             |

(1) Minimum of 3' between stripe and gutter joint.

(2) Rolled curb, 11'; vertical 12'.

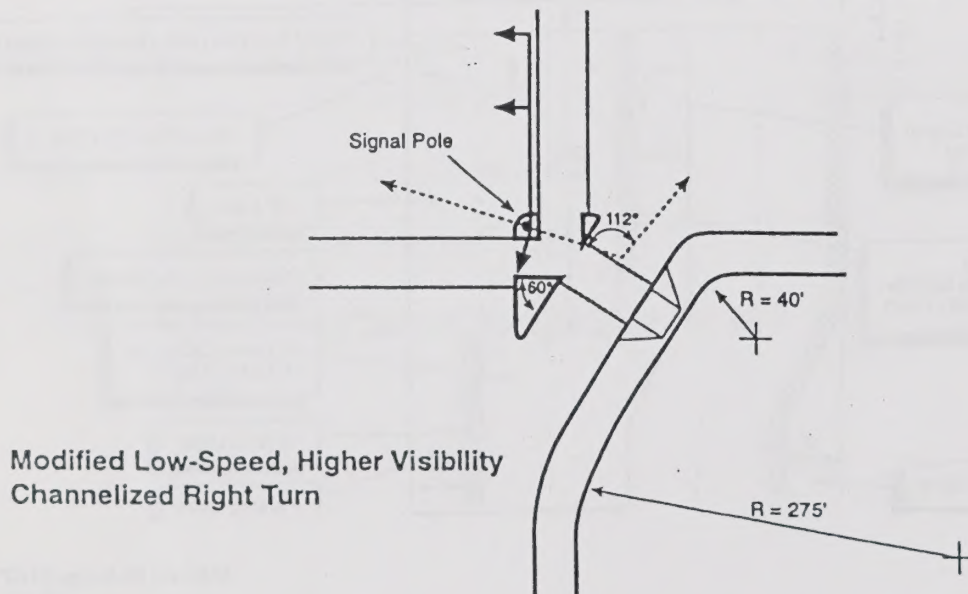
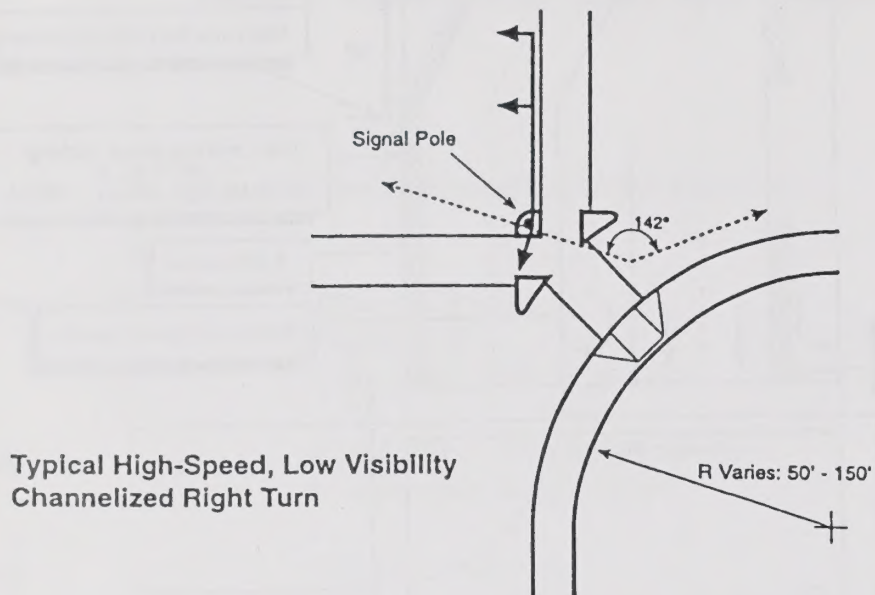
Source: Caltrans, Highway Design Manual, Chapter 1000, MUTCD.



Michael G. Jones, MCP  
No Scale

Figure 9: Bike Lane Intersection Design





**Figure 10: Recommended Right Turn Channelization**

*signalized intersection. The location of the detectors should be identified by a stencil of a bicycle and the words 'Bicycle Detector'.*

*Action #10: Bike lane pockets (minimum 4 feet wide) between right turn lanes and through lanes should be provided wherever available width allows, and right turn volumes exceed 150 motor vehicles/hour.*

#### **4.6 Other Facilities**

In addition to those identified by Caltrans, there are a variety of improvements which will enhance the safety and attraction of streets for bicyclists.

*Bicycle Boulevards.* Palo Alto pioneered the concept of a bicycle boulevard, which in that city is a street directly parallel to a major commercial corridor that was designed to promote bicycle movement and discourage through vehicle movement. This was achieved by partial street closures and lack of coordinated signals. In addition, wider curb lanes and frequent signing as a "Bicycle Boulevard" helps increase the motorists' awareness.

*Action #11: While there are no specific streets that warrant bicycle boulevard treatment currently in Winters, the concept should be kept as a tool to be used by the City in the future as needed.*

*Sidewalks.* The use of sidewalks as bicycle facilities is not encouraged by Caltrans, even as a Class III bike route. There are exceptions to this rule. The California Vehicle Code states: "Local authorities may adopt rules and regulations by ordinance or resolution regarding the (...) operation of bicycles (...) on the public sidewalks." (CA VC 21100, Subdiv. H). Caltrans adds in Chapter 1000: "In residential areas, sidewalk riding by young children too inexperienced to ride in the street is common. With lower bicycle speeds and lower auto speeds, potential conflicts are somewhat lessened, but still exist. But it is inappropriate to sign these facilities as bikeways. Bicyclists should not be encouraged (through signing) to ride facilities that are not designed to accommodate bicycle travel."

*Action #12: Adopt Caltrans recommendations.*

*Traffic Calming.* This includes any effort to moderate or reduce vehicle speeds and/or volumes on streets where that traffic has a negative impact on bicycle or pedestrian movement. Because these efforts may impact traffic outside the immediate corridor, study of traffic impacts is typically required. For example, the City of Berkeley instituted traffic calming techniques by blocking access into residential streets. The impact was less traffic on local streets, and more traffic on arterials and collectors. Other techniques include installing traffic circles, intersection islands, partial street



closings, “bulb-out” curbs, pavement treatments, lower speed signal timing, and narrowing travel lanes. The City of Winters already has a discontinuous street grid system and does not have a major problem with through traffic filtering down residential streets that would warrant major traffic calming measures.

*Signing and Striping.* All bikeway signing in Winters should conform to the signing identified in the Caltrans Traffic Manual and/or the Manual on Uniform Traffic Control Devices (MUTCD). These documents give specific information on the type and location of signing for the primary bike system. A list of bikeway signs from Caltrans and the MUTCD are shown in Table 6 (List of Bikeway Signs). Typical signing for a school commute corridor is shown in Figure 11. A typical bike route sign is shown in Figure 12.

*Action #13: Develop a Winters Bikeway System logo for use on the primary network. This sign may include a bikeway numbering system that is keyed into a publicly-produced bikeway map. An example of such a sign is shown in Figure 13.*

*Action #14: Installing bikeway signs should be a high priority, and may begin immediately on Class III bike route portions of the bikeway network. Examples of bikeway signing at signalized and unsignalized intersections are shown in Figures 14 and 15. Examples of bikeway warning signs are shown in Figure 16.*

## **4.7 Monitoring, Maintenance, and Security**

### **4.7.1 Monitoring**

Once the plan has been adopted, a monitoring effort is required to ensure that the recommendations are enforced over time. The following actions are recommended to achieve this.

*Action #15: Identify a bicycle coordinator position, preferably located in the Public Works Department, who will be responsible for many of the monitoring responsibilities. This person will also be responsible for coordinating with planning, parks and recreation, police, and other departments.*

*Action #16: Plan Review. All development and infrastructure improvement plans should be routed through the bicycle coordinator to ensure that bikeway segments are implemented, developer requirements are being met, and design standards followed.*

*Action #17: Accident monitoring. Bicycle-related accident data should be collected annually from the police department and evaluated to determine areas of concern.*

**Table 6: Recommended Signing and Marking****Recommended Signing and Marking**

| <u>Item</u>                               | <u>Location</u>                                                                      | <u>Color</u> | <u>MUTCD Designation</u>          |
|-------------------------------------------|--------------------------------------------------------------------------------------|--------------|-----------------------------------|
| No Motor Vehicles                         | Trail entrances                                                                      |              | R5-3                              |
| Use Ped Signal/Yield to Peds              | At crosswalks; where<br>Sidewalks are being used                                     |              | R9-5<br>R9-6                      |
| Bike Lane Ahead: Right Lane<br>Bikes Only | At beginning of bike lanes                                                           |              | R3-16<br>R3-17                    |
| STOP, YIELD                               | At trail intersections with<br>Roads & Coastal Rail Trails                           | Red          | R1-1<br>R1-2                      |
| Bicycle Crossing                          | For motorists at trail crossings                                                     |              | W11-1                             |
| Bike Lane                                 | At the far side of all arterial<br>Intersections                                     |              | D11-1                             |
| Hazardous Condition                       | Slippery or rough pavement                                                           |              | W8-10                             |
| Turns and Curves                          | At turns and curves which exceed<br>20 mph design specifications                     |              | W1-1,2<br>W1-4,5<br>W1-6          |
| Trail Intersections                       | At trail intersections where no<br>STOP or YIELD required, or<br>sight lines limited |              | W2-1, W2-2<br>W2-3,<br>W2-4, W2-5 |
| STOP Ahead                                | Where STOP sign is obscured                                                          |              | W3-1                              |
| Signal Ahead                              | Where signal is obscured                                                             |              | W3-3                              |



**Table 6 (continued): Recommended Signing and Marking****Recommended Signing and Marking**

| <u>Item</u>                                     | <u>Location</u>                                                              | <u>Color</u> | <u>MUTCD Designation</u> |
|-------------------------------------------------|------------------------------------------------------------------------------|--------------|--------------------------|
| Bikeway Narrows                                 | Where bikeway width narrows or is below 8'                                   |              | W5-4                     |
| Downgrade                                       | Where sustained bikeway gradient is above 5%                                 |              | W7-5                     |
| Pedestrian Crossing                             | Where pedestrian walkway crosses trail                                       |              | W11A-2                   |
| Railroad Crossing                               | Where trail crosses railway tracks at grade                                  |              | W10-1                    |
| Directional Signs                               | At intersections where access to Major destinations is available             |              | D1-1b(r/l)<br>D1-1(c)    |
| Right Lane Must Turn Right                      | Where bike lanes ends before Intersection                                    |              | R3-7<br>R4-4             |
| Coastal Rail Trail                              | Trail logo: at all trail entrances, major intersections, major access points |              | n/a                      |
| Trail Regulations                               | All trail entrances                                                          |              | n/a                      |
| Multi-purpose Trail: Bikes Yield to Pedestrians | All trail entrances                                                          |              | n/a                      |
| Bikes Reduce Speed & Call Out Before Passing    | Every 2,000 feet                                                             |              | n/a                      |
| Please Stay On Trail                            | In environmentally sensitive areas                                           |              | n/a                      |

**Table 6 (continued): Recommended Signing and Marking****Recommended Signing and Marking**

| <u>Item</u>                                                        | <u>Location</u>                                                        | <u>Color</u> | <u>MUTCD Designation</u> |
|--------------------------------------------------------------------|------------------------------------------------------------------------|--------------|--------------------------|
| Caution: Storm Damaged Trail                                       | Storm damaged locations                                                |              | n/a                      |
| Trail Closed: No Entry Until Made Accessible & Safe for Public Use | Where trail or access points closed due to hazardous conditions        |              | n/a                      |
| Speed Limit Signs                                                  | Near trail entrances; where speed Limits should be reduced from 20 mph |              | n/a                      |
| Trail Curfew 10PM – 5AM                                            | Based on local ordinance                                               |              | n/a                      |









Figure 12: Bike Route Sign





Figure 13: Numbered Bike Route Sign



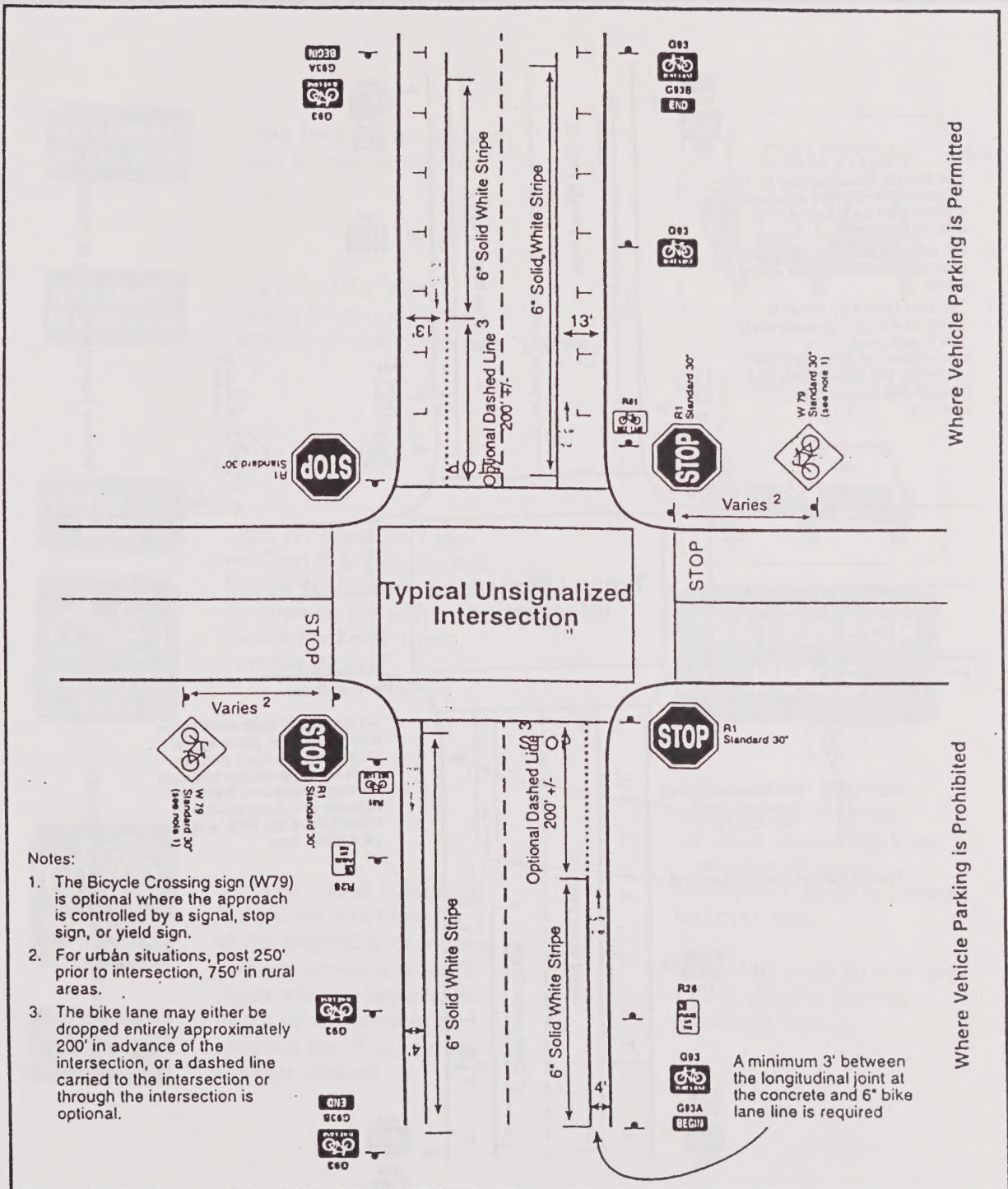
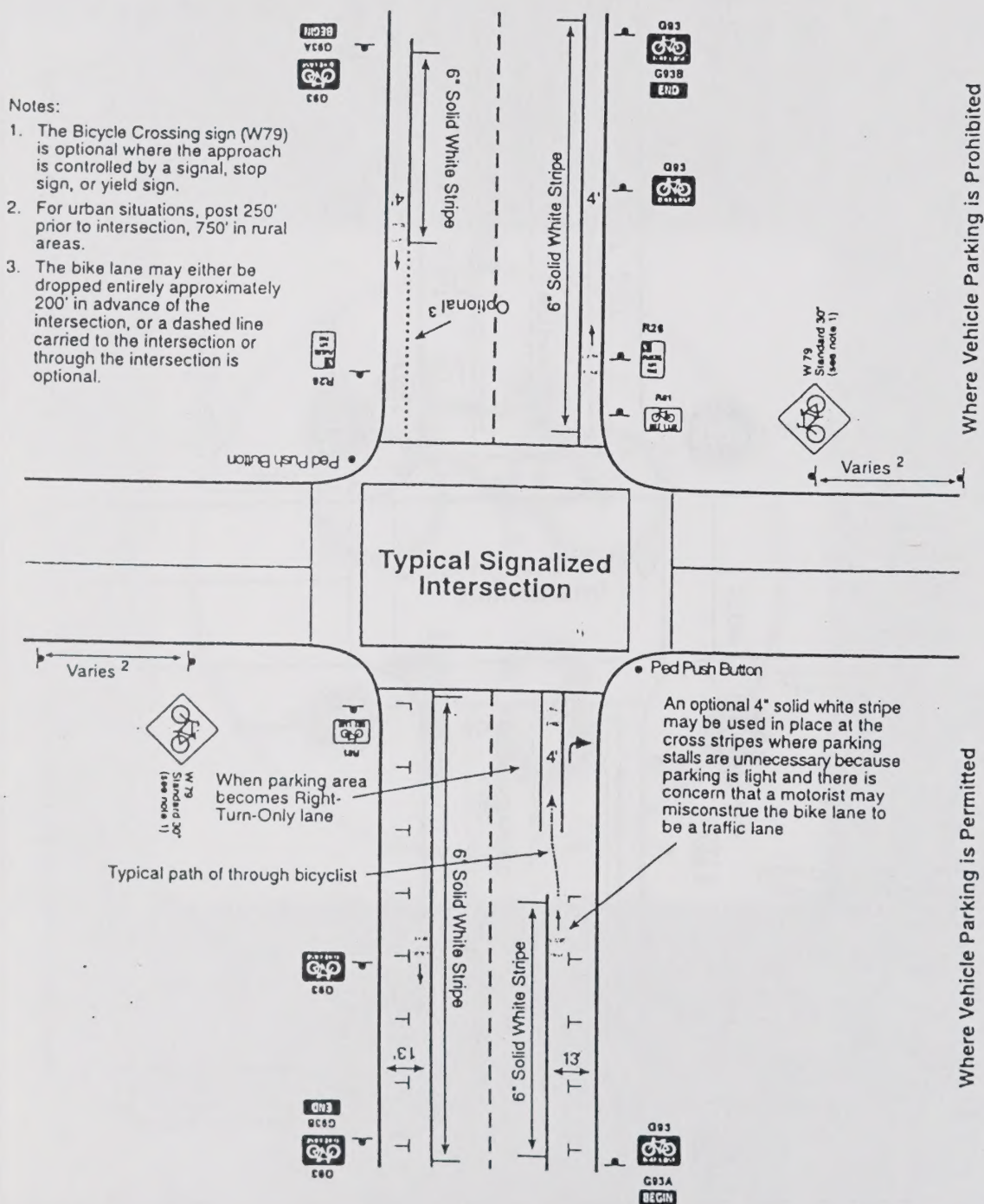


Figure 14: Signing at Unsignalized Intersections





### Figure 15: Signing at Signalized Intersections

**NO PARKING  
IN BIKE PATH**

Signs for locations on path  
near auto access points

**NO PARKING  
IN BIKE LANE**

Signs for bike lanes  
where there is no auto  
parking on right of lane

**WATCH FOR  
BIKES**

Signs for occasional use  
on Class 2 & 3 routes and  
Bicycle Boulevards. Can  
be interspersed with  
"Share the Road" signs.  
Possible sticker?



**SHARE THE  
ROAD**

Signs for use at transition  
from Class 2 to Class 3;  
at the beginning of routes;  
and on non-bicycle-route  
roads where bicycle traffic  
might be expected or at  
intervals on all city streets.  
Possible sticker?



**WATCH FOR  
BIKES**

Signs used at intervals  
along bike routes with  
adjacent parallel parking.  
Frequency of signs  
should be related to parking  
turnover rates.

Should be used throughout  
City at parallel parking  
locations, also.

**Figure 16: Warning Signs**



- Action #18: Marketing/Public Awareness. The coordinator should assist with promotional and educational events.*
- Action #19: Maintenance. The coordinator should be responsible for an annual maintenance and operations budget, coordinating with the Public Works Department. The coordinator should track long term bike path maintenance, schedule repairs, and respond to calls from the public or staff regarding maintenance needs.*
- Action #20: Funding. The coordinator should work closely with agencies such as SACOG, YSAQMD, and Caltrans to keep abreast of funding opportunities and prepare application packages.*
- Action #21: Enforcement/Security. The coordinator should be responsible for coordinating with the police department to provide needed enforcement along bike paths. Also, problems regarding security, privacy, vandalism, and crime along bike paths should be addressed through the coordinator.*

#### **4.7.2 Maintenance**

The total annual maintenance cost of the primary bikeway system is estimated to be \$6,895 when it is fully implemented. All of the maintenance costs are associated with the proposed Putah Creek Pathway, as bike lanes and routes are assumed to be maintained as part of routine roadway maintenance. Class I bike path maintenance costs are based on \$10,335 per mile, which covers labor, supplies, and amortized equipment costs for weekly trash removal, monthly sweeping, and bi-annual resurfacing and repair patrols.

#### **4.7.3 Security**

Security may be an issue on the proposed Putah Creek Pathway. The following actions are recommended to address these concerns.

- Action #22: Enforcement of applicable laws on the Putah Creek Pathway will be performed by the City of Winters Police Department using vehicles. Enforcement of vehicle statutes relating to bicycle operation will be enforced on Class II and Class III bikeways as part of the department's normal operations. No additional manpower or equipment is anticipated for Class II or III segments.*
- Action #23: Normal hours of operation for the Putah Creek Pathway will be 6 a.m. to 9 p.m., unless otherwise specified.*

**Table 7: Bikeway Maintenance Check List**

| <b><u>Item</u></b>                       | <b><u>Frequency</u></b>    |
|------------------------------------------|----------------------------|
| Sign replacement/repair                  | 1 – 3 years                |
| Pavement marking replacement             | 1 – 3 years                |
| Tree, shrub & grass trimming/fertilizing | 5 months – 1 year          |
| Pavement sealing/potholes                | 5 – 15 years (1)           |
| Clean drainage system                    | 1 year                     |
| Pavement sweeping                        | Weekly – monthly/as needed |
| Shoulder and grass mowing                | Weekly/as needed           |
| Trash disposal                           | Weekly/as needed           |
| Lighting replacement/repair              | 1 year                     |
| Graffiti removal                         | Weekly – monthly/as needed |
| Maintain furniture                       | 1 year                     |
| Fountain/restroom cleaning/repair        | Weekly – monthly/as needed |
| Pruning                                  | 1 – 4 years                |
| Bridge/tunnel inspection                 | 1 year                     |
| Remove fallen trees                      | As needed                  |
| Weed control                             | Monthly/as needed          |
| Remove snow and ice                      | Weekly/as needed           |
| Maintain emergency telephones, CCTV      | 1 year                     |
| Maintain irrigation lines                | 1 year                     |
| Irrigate/water plants                    | Weekly – monthly/as needed |

(1) Annually in areas with snow.

Source: Trails for the 21<sup>st</sup> Century, 1993.



## 5.0 Promoting and Encouraging Bicycling

### 5.1 Community and Employer Outreach

Without community support, a bicycle and pedestrian plan lacks the key resources that are needed to ensure implementation over time. While the City Public Works Department may be responsible for overseeing the design and construction of physical improvements, strategies for community involvement will be important to ensuring broad-based support – which translates into political support – which can help secure financial resources. Involvement by the private sector in raising awareness of the benefits of bicycling and walking range from small incremental activities by non-profit groups, to efforts by the largest employers in the City. Specific programs are described below.

#### 5.1.1 *Bicycle Donation Program*

A fleet of lender bicycles available to employees to use as a commute alternative has proved successful in Portland and other U.S. cities. The bicycle may be purchased new or obtained from police auctions, repaired, painted and engraved with ID numbers, and made available free of charge to employees. Depending on demand, bicycles may be made available through reservations or on a rotating basis. The bicycles themselves should be lower-end heavy-duty bicycles that have minimal re-sale value. Employer's responsibilities would be limited to an annual maintenance inspection and repairs as necessary. The objective of the program is to encourage employees to try bicycling to work as an alternative, without making a major investment. Employers may wish to allow bicycle commuters to leave 15 minutes early from work, or some other type of incentive to encourage use of the bicycles. It is recommended that the City of Winters be the first to try this program, and to encourage private employers to follow suit by offering TDM credits or subsidized purchases of bicycles.

#### 5.1.2 *Bicycle Clunker and Parts Program, Bicycle Repair Program*

This program ties directly into the previous program by obtaining broken, stolen, or other bicycles and restoring them to working condition. The program's dual mission is also to train young people (ages 12-18) how to repair bicycles as part of a summer jobs training effort. Bicycles are an excellent medium to teach young people the fundamentals of mechanics, safety, and operation. Young people can use these skills to maintain their own bicycles, or to build on related interests. The program is often staffed by volunteers from local cycling organizations and bicycle shops, who can help build an interest in bicycling as an alternative to driving. The seed money to begin this program often comes from a local private funding source. The proposal to this source should clearly outline the project objectives, operating details, costs, effectiveness evaluation, and other details. The bicycles themselves could be derived from unclaimed stolen



bicycles from the police department, or from donated bicycles. The program will need to qualify as a Section 501C (3) non-profit organization to offer tax deductions.

### *5.1.3 Bicycle Facilities Map*

Work with the Yolo-Solano Air Quality Management District, Parks & Recreation, the School District, Chamber of Commerce, and local businesses to produce bicycle/walking map that shows existing and recommended touring and commuting bicycle routes, access to regional bike routes, historic walking tours, and school commute routes.

### *5.1.4 Community Adoption*

Programs to have local businesses and organizations “adopt” a pathway such as the Putah Creek Pathway have proven effective around the country, similar to the adoption of segments of the Interstate Highway System. Supporters would be identified by small signs located along the pathway, acknowledging their contribution. Support would be in the form of an annual commitment to pay for the routine maintenance of the pathway, which in general costs about \$10,335 per mile. This program may be administered by the Department of Public Works or other groups.

### *5.1.5 Bike Fairs and Races*

The City is well positioned to capitalize on the growing interest in on-road and off-road bicycle races and criteriums. Given the City’s proximity to major bicycling centers such as Davis and location on existing major bicycling routes, the market for such events would be tremendous. Events would need to be sponsored by local businesses, and involve some promotion, insurance, and development of adequate circuits for all levels of riders. It is not unusual for these events to draw up to 1,000 riders, which could bring some needed off-season activity into the City.

The City can assist in developing these events by acting as a co-sponsor, and expediting and possibly underwriting some of the expense of – for example – police time. The City should also encourage these events to have races and tours that appeal to the less experienced cyclist. For example, in exchange for underwriting part of the costs of a race the City could require the event promoters to hold a bicycle repair and maintenance workshop for kids, and a tour of the route lead by experienced cyclists who could show less experienced riders how to safely negotiate city streets.



### *5.1.6 Employer Incentives*

Beyond programs described earlier such as the Bicycle Donation Program, employer incentives to encourage employees to try bicycling or walking to work include sponsoring bike fairs and races, providing bicycle lockers and shower facilities, and offering incentives to employees who commute by bicycle or walk by allowing for more flexible arrival and departure times. The City may offer incentives to employers to institute these improvements through air quality credits, lowered parking requirements, reduced traffic mitigation fees, or other means.

## **5.2 Bicycle and Pedestrian Safety Education Programs**

The Winters Bicycle System Master Plan provides both physical recommendations (such as bike lanes) and program recommendations. Some of program recommendations, such as changes in zoning requirements for bicycle parking, have already been covered. This section covers future efforts to educate bicyclists and motorists, and efforts to increase the use of bicycles as a transportation alternative.

### *5.2.1 Education*

The Winters Joint Unified School District, Police Department, and the Department of Public Works have a history of trying to improve safety conditions for bicyclists and pedestrians. Despite these efforts, the lack of education for both bicyclists, especially younger students, is a leading cause of accidents. For example, the most common type of reported bicycle accident in California involves a younger person (between 8 and 16 years of age) riding on the wrong side of the road in the evening hours. Studies of accident locations around California consistently show the greatest concentration of accidents is directly adjacent to elementary, middle, and high schools. Many less-experienced adult bicyclists are unsure how to negotiate intersections and make turns on city streets.

Motorist education on the rights of bicyclists and pedestrians is virtually non-existent. Many motorists mistakenly believe, for example, that bicyclists do not have a right to ride in travel lanes and that they should be riding on sidewalks. Many motorists do not understand the concept of "sharing the road" with bicyclists, or why a bicyclist may need to ride in a travel lane if there is no shoulder or it is full of gravel or potholes.

Existing education programs in schools are generally taught once a year to 3rd, 4th, and 5th graders. Curriculum is generally derived from established programs developed by groups such as the California State Automobile Association, and taught by members of the Winters Police Department. Budget cuts, demands on students' time, and liability concerns limit the extent of bicycle education to school children. Formal adult bicycle education is non-existent.



*Action #24: Expand Current Education Programs*

Existing educational programs in Winters schools should be expanded and supported by a secure, regular funding source. A Joint City/School District Safety Committee should be formed consisting of appointed parents, teachers, administrators, police, and public works staff whose task it is to identify problems and solutions, ensure implementation, and submit recommendations to the School Board or City Council.

*Action #25: Develop New Educational Program Materials and Curriculum.*

Education materials should be expanded to promote the benefits of bicycling, the need for education and safety improvements, the most recent educational tools available in the country (including the use of low-cost safety videos), and directives to parents on the proper school drop-off procedure for their children. Educational pamphlets for children should be made more readable. Incentive programs to reward good behavior should be developed. Educational programs, and especially on-bike training, should be expanded to more grades and for more hours per year. Education curriculum should, at a minimum, cover the following lessons:

- On-bike training or bicycle 'rodeos'
- How to adjust and maintain a bicycle
- Night riding (clothes, lights)
- Rules of the road
- Riding on sidewalks
- How to negotiate intersections
- Riding defensively
- Use of hand signals

A standard safety handbook format should be developed incorporating the best elements of those currently in use, and made available to each school on computer disks so they may be customized as needed. Each school should develop a circulation map of the campus and immediate environs to include in the handbooks, clearly showing the preferred circulation and parking patterns and explaining in text the reason behind the recommendations. This circulation map should also be a permanent feature in all school newsletters. Bicycle helmet subsidy-programs are available in California, and should be used to provide low-cost approved helmets for all school children who ride bicycles.

*Action #26: Develop an Adult Education Program.*

Establish an adult bicycle education program through the Public Works Department, or other City departments that (a) teaches adults how to ride defensively, (b) how to ride on a variety of



city streets, and (c) encourages adults to feel more confident to ride to work or for recreation. Work with local bicycling groups who could provide the training expertise, and possibly lead organized bicycle training sessions, tours and rides.

*Action #27: Educate Motorists*

Educate motorists about the rights and characteristics of bicyclists through a variety of means including: (a) making bicycle safety a part of traffic school curriculum in Winters, (b) producing a brochure on bicycle safety and laws for public distribution, (c) enforcing existing traffic laws for both motorists and bicycles, (d) sending an official letter to the Department of Motor Vehicles recommending the inclusion of bicycle laws in the drivers license exam, and (e) install signs that read "Share the Road" with a bicycle symbol at least every 1,000 feet along all routes of the proposed primary system where bike lanes are not feasible, travel lanes are under 14 feet wide, and ADTs exceed 20,000.

### **5.3 Other Safety Improvements**

In addition to the education actions listed above and the proposed bicycle and pedestrian system improvements, the following miscellaneous actions address a variety of needs and deficiencies.

*Pedestrian Crossings*

Pedestrian crossings are generally provided with crosswalks, warning signs, lighting, signals, and/or pavement treatments. Standards for the design, operation, and installation of pedestrian crossings have been developed by a variety of organizations such as Caltrans and AASHTO. The type and location of crossing improvements is often based on an evaluation of pedestrian volumes, spacing between crossings, traffic volumes, accident patterns, and other information. There has been a recent trend nationwide of removing unprotected mid-block crossings based on the notion that it gives pedestrians a false sense of security and leads to a higher accident rate.

The City should adopt minimum thresholds for pedestrian facilities that are applied city-wide. This includes minimum green time at signalized intersections based on street width, minimum distances between crosswalks on collectors and arterials, minimum sight clearance (including on-street parking restrictions), and minimum lighting standards.

*School Commute Routes*

Identifying and improving routes for children to walk or bicycle to school is one of the most cost effective means of reducing AM traffic congestion and addressing existing safety problems. Most effective school commute programs are joint efforts of the school district and city, with

parent organizations adding an important element.

*Action #28: Develop School Commute Route Improvement Plan*

Develop a tool that can be used to evaluate safety conditions on school commute corridors to determine if conditions are within acceptable bounds. This can be done using state or City accident data, surveys of parents on their school commute habits, surveys of students who walk or ride to school, and other sources. Develop specific thresholds by which meaningful comparisons can be made.

Develop a toolbox of measures that can be implemented by the school district and City to address safety problems. This may include maps of preferred school commute routes, warning signs, enhanced education, additional crossing guards, signal treatments (longer cycles, pedestrian activated buttons, etc.), enhanced visibility at key locations (lighting, landscaping abatement), crosswalks, bike lanes, and other measures.



## 6.0 Implementation Strategy

### 6.1 Ranking and Phasing of Improvements

The recommended improvements and programs are expected to be developed over the 20-year lifespan of the plan, from 2002 through 2022 . The actual phasing of projects is directly linked to the availability of funding, which in turn is related to overall economic conditions in Winters, California, and the United States. Funding is also related to local, regional, state, and federal policy and the amount of funding that is made available to bicycle and pedestrian projects. Implementation is also expected to occur through local initiatives and possible use of impact fees, zoning requirements/bonuses, and/or tax increment financing.

The Southern Pacific Railroad Trestle and the Grant Avenue crossing were selected as the top priority projects because they meet most of the criteria listed above. The first projects will focus on providing a dedicated and safe crossing of Putah Creek for bicyclists and pedestrians and improving the crossing of Grant Avenue at its intersection with Third Street.

Placing bike lanes along roadways that are being reconstructed represents one of the most cost effective strategies for the City, and one that will be pursued on the Grant, Railroad, and Moody Slough Roadway projects to be constructed or re-constructed as part of future development. The incremental cost of providing bike lanes or other features is nominal on most roadway projects, and in fact may already be included but simply identified as a “shoulder” rather than a bike lane. Table 8 presents a list of scheduled roadway improvement projects in Winters.

Table 8  
Scheduled Roadway Construction Projects

| <i>Roadway Project</i>         | <i>Year Scheduled</i> |
|--------------------------------|-----------------------|
| Grant/Russell Widening         | 2012                  |
| Railroad Avenue Widening       | 2014                  |
| Moody Slough Road Construction | 2014                  |

### 6.2 Cost Breakdown

Table 9 presents a breakdown of the recommended projects, along with phasing, responsibility, funding sources, and total development cost. It is important to note that while many of the

projects can be funded with federal, state, and regional transportation, safety, and/or air quality grants, others are recreational in nature and must be funded by local or private sources.

Table 9  
Project Phasing, Responsibility, and Cost  
Phase I (Years 1-10)

| <i>Project/Year</i>                                                                                                                                                      | <i>Potential Funding Sources<sup>1</sup></i> | <i>Responsible Person or Agency</i> | <i>Cost<sup>2</sup></i> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------|-------------------------|
| <b>Facilities</b>                                                                                                                                                        |                                              |                                     |                         |
| 1. Southern Pacific Trestle Restoration: conduct feasibility/environmental studies, design, engineering, and bid documents; obtain funding; construct. (Year: 2003-2005) | F1, F3, S3, L1, R1                           | DPW/Parks & Recreation              | \$864,160               |
| 2. Railroad Avenue Bikeway: design, fund, construct. (Year 2004-2006)                                                                                                    | F1, F2, F3, S1, S2, S3, L1, L2, L3, L4, R1   | DPR/Parks & Recreation              | \$26,885                |

- <sup>1</sup> F1= TEA 21 (Surface Transportation Program )  
 F2= TEA 21 (Congestion Management and Air Quality Program)  
 F3= TEA 21 (Transportation Enhancement Activities)  
 F4= TEA 21 (National Recreational Trails)  
 S1= State and Local Transportation Partnership  
 S2= Environmental Enhancement and Mitigation Program  
 S3= State Bike Transportation Account  
 L1= Transportation Development Act  
 L2= State Gas Tax (local share)  
 L3= Developer Fees, Exactions, or Assessments  
 L4= Community Foundation Grants  
 R1= Air District Grants

<sup>2</sup> All projects and programs assumed to funded by new local, regional, state, and federal sources rather than existing City of Winters General Fund.



Table 9  
Project Phasing, Responsibility, and Cost  
Phase I (Years 1-10)

|                                                                                                                                                                                   |                                             |                        |           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------|-----------|
| 3. Third Street/Hemenway Street/Niemann Bikeway: including crossing enhancements at the Grant Avenue intersection; design, fund, construct. (Year: 2005-2008)                     | F1,F2,F3,S1,<br>S2,S3,L1,L2,<br>L3,L4,L4,R1 | DPW                    | \$14,230  |
| 4. Putah Creek Pathway: conduct feasibility/environmental studies, secure easements, design, engineering, and bid documents; obtain funding; construct. (Year: 2005-2009)         | F4, S2, L3,<br>L4                           | DPW/Parks & Recreation | \$152,948 |
| 5. Adopt a Bikeway Signing Program, with a unique logo developed for Winters . Obtain funding; complete sign planning & design; implement on priority network first. (Year: 2003) | S1, S2, L1,<br>L2                           | DPW                    | \$6,080   |

### Programs

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |                           |         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------|---------|
| 1. Develop and adopt a 'toolbox' of school commute safety measures that can be implemented as needed by neighborhood groups and schools. Enhance the school safety program for bicyclists in Winters , including expanding the School Safety Committee to include DPW, new educational materials, minimum curriculum and hours per class per year thresholds, subsidized helmet programs, new funding sources, and opportunities for volunteers to help. (Year: 2004) | L1, L4 | Joint School District/DPW | \$6,080 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------|---------|

Table 9  
Project Phasing, Responsibility, and Cost  
Phase I (Years 1-10)

|                                                                                                                                                                                                                                                                                                                                                 |                                                |                                     |                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------|
| 2. Implement bicycle parking recommendations, including setting and marketing location and design parameters, signing bicycle parking locations on-street and on maps, setting minimum bicycle parking requirements, and establishing a demonstration bicycle corral at an Winters school(s). Adopt new bicycle parking ordinance. (Year: 2007) | bike shop sponsorship/ advertising, L1, L3, L4 | DPW                                 | \$1,220 for planning/design, \$1,220 for racks/lockers, \$1,220 for demonstration corral or bike station. |
| 3. Develop an adult bicycle educational program and motorist education program. (Year: 2007)                                                                                                                                                                                                                                                    | L1, L2, L4                                     | School District                     | \$1,220 to establish program                                                                              |
| 4. Develop a 'toolbox' of measures to enhance pedestrian and bicycle-friendliness for a variety of settings, to be used by neighborhood groups, merchants, and others as needed. (Year: 2007)                                                                                                                                                   | L1, L2, L4                                     | DPW                                 | \$1,825                                                                                                   |
| 5. Establish a voluntary bicycle loaner program, to be used by employers in Winters . Employers to receive low-cost bicycles, maintenance assistance, and air quality credits. (Year: 2008)                                                                                                                                                     | L4                                             | Community Development/ local groups | \$1,220 to establish program                                                                              |
| 6. Establish an 'Earn a Bike' program that teaches young people how to maintain and repair bicycles, in conjunction with the loaner program. Assist in grant writing and administrative support. (Year: 2008)                                                                                                                                   | L4                                             | Community Development/ local groups | \$1,220 grant to local organizations                                                                      |
| 7. Enhance existing bicycle and pedestrian maps, and extend exposure                                                                                                                                                                                                                                                                            | L4                                             | Community Development               | \$1,220 grant to local                                                                                    |



Table 9  
Project Phasing, Responsibility, and Cost  
Phase I (Years 1-10)

|                                                                                                                                                                    |    |                       |                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----------------------|--------------------------------------------------------------------|
| of these maps for public awareness.<br>(Year: 2003)                                                                                                                |    |                       | organizations                                                      |
| 8. Encourage community adoption of bikeways for maintenance similar to freeway program. (Year: 2009)                                                               | L4 | DPW                   | \$1,220 to establish program                                       |
| 9. Support existing bicycle and walking events through financial and administrative measures; encourage expansion of events to include casual riders. (Year: 2003) | L4 | Community Development | \$1,220 grant to local organizations, plus 10 staff hours per year |
| Total Cost (Years 1-10)<br>Excluding projects already funded                                                                                                       |    |                       | \$1,083,188                                                        |
| Total Bikeway Facilities                                                                                                                                           |    |                       | \$1,064,303                                                        |
| Total Programs                                                                                                                                                     |    |                       | \$18,885                                                           |

These proposed improvements are scheduled to be implemented over the next 10 years, or as funding is available. It also presents a 'best case' scenario for Winters, providing a network of bicycle facilities within the next ten years. Some of the more expensive projects may take longer to implement.

### 6.3 Funding

There are a variety of potential funding sources including local, state, regional, and federal funding programs that can be used to construct the proposed bicycle and pedestrian improvements. Many of the federal, state, and regional programs are competitive, and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits. Local funding for bicycle projects typically comes from Transportation Development Act (TDA) funding, which is prorated to each community based on population. Funding for many of the programs listed in Table 10 would need to be funded either with TDA, general fund (staff time), or possibly private grants. Table 10 presents a summary of available funding along with timing, criteria, and funding agency.



**Table 10: Summary of Funding Programs**

| <b>Funding Programs</b>                        | <b>Modes (Bicycle, Pedestrian-walkways, trails)</b> | <b>Trip Types (Commute/Transportation, Recreational)</b> | <b>Project Types (Construction, Non-construction, Both)</b> |
|------------------------------------------------|-----------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------|
| <b>Federal Funding</b>                         |                                                     |                                                          |                                                             |
| STP                                            | Both                                                | Transportation                                           | Both                                                        |
| Transportation Enhancement Activities (TEA 21) | Both                                                | Transportation                                           | Construction                                                |
| CMAQ (TEA 21)                                  | Both                                                | Transportation                                           | Both                                                        |
| National Highway System (NHS)                  | Both                                                | Transportation                                           | Both                                                        |
| Federal Lands Highway Funds                    | Both                                                | Transportation                                           | Construction                                                |
| Scenic Byways Program                          | Both                                                | Transportation                                           | Construction (Including planning design & development)      |
| Bridge Repair & Replacement                    | Bicycle                                             | Transportation                                           | Construction                                                |
| National Recreation Trails Fund                | Both                                                | Both                                                     | Both                                                        |
| Highway Safety Program                         | Both                                                | Transportation                                           | Non-Construction                                            |
| Highway Safety & Development                   | Pedestrian                                          | Transportation                                           | Non-Construction                                            |
| Recreational & Public Purposes Act             | Both                                                | Both (Primarily Recreational)                            | Construction                                                |
| Schools & Roads Grants to States               | Both                                                | Transportation                                           | Construction                                                |
| Section 3 Mass Transit Capital Grants          | Both                                                | Transportation                                           | Both                                                        |
| <b>State Funding</b>                           |                                                     |                                                          |                                                             |
| California Bikeways Act                        | Bikes                                               | Transportation                                           | Construction                                                |
| Environmental Enhancement & Mitigation Program | Both                                                | Transportation                                           | Construction                                                |
| Flexible Congestion Relief                     | Both                                                | Transportation                                           | Construction                                                |
| Habitat Conservation Fund Grant Program        | Both                                                | Both                                                     | Construction                                                |
| Kapiloff Land Bank Funds                       | Both                                                | Transportation                                           | Construction (Including land acquisition)                   |



**Table 10 (continued): Summary of Funding Programs**

| <b>Funding Programs</b>                       | <b>Modes (Bicycle, Pedestrian-walkways, trails)</b> | <b>Trip Types (Commute/Transportation, Recreational)</b> | <b>Project Types (Construction, Non-construction, Both)</b> |
|-----------------------------------------------|-----------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------|
| Land & Water Conservation Fund                | Both                                                | Both                                                     | Construction (Including land acquisition)                   |
| Mello-Roos Community Facilities Districts     | Both                                                | Both                                                     | Both                                                        |
| Local Transportation Fund (LTF) TDA Article 3 | Both                                                | Transportation                                           | Both                                                        |

**TEA 21**

Federal funding through the TEA 21 (Transportation Equity Act for the 21st Century) program will provide the bulk of outside funding. TEA 21 currently contains two major programs, STP (Surface Transportation Program) and CMAQ (Congestion Mitigation and Air Quality Improvement) along with other programs such as the National Recreational Trails Fund, Section 402(Safety) funds, Scenic Byways funds, and Federal Lands Highway funds.

TEA 21 funding is administered through the state (Caltrans or Resources Agency) and regional governments (SACOG). Most, but not all, of the funding programs are transportation versus recreational oriented, with an emphasis on (a) reducing auto trips and (b) providing an inter-modal connection. Funding criteria often includes completion and adoption of a bicycle master plan, quantification of the costs and benefits of the system (such as saved vehicle trips and reduced air pollution), proof of public involvement and support, CEQA compliance, and commitment of some local resources. In most cases, TEA 21 provides matching grants of 80 to 90 percent – but prefers to leverage other monies at a lower rate.

While Winters may have an uphill battle in securing federal dollars, the area is located near Sacramento and Davis – both well known bicycling areas. It will be critical to get the local state assemblyperson and senator briefed on these projects and working with Caltrans and the California Transportation Commission for these projects.

**State***TDA Article III (SB 821)*

Transportation Development Act (TDA) Article III funds are state block grants awarded annually to local jurisdictions for bicycle and pedestrian projects in California. These funds originate from the state gasoline tax and are distributed to local jurisdictions based on population.



*AB 434*

AB 434 funds are available for clean air transportation projects, including bicycle projects, in California. The Yolo-Solano Air Quality Management District administers these funds locally.

*Bicycle Transportation Account*

The state Bicycle Transportation Account (BTA) is an annual grant program available to cities and counties for funding bicycle projects that improve improve safety and convenience for bicycle commuters. For the 2003/2004 funding cycle, BTA will provide \$7.2 million to cities and counties.

**Regional**

The Yolo-Solano Air Quality Management District is a major potential source of funding for bicycle and pedestrian programs. The grants are generally in the \$10,000 to \$80,000 range and are highly competitive based on a cost-benefit formula developed by the District. Funding priorities also change annually with the District, between bicycle and other projects such as transit.

**Local***New Construction*

Future road widening and construction projects are one means of providing bike lanes. To ensure that roadway construction projects provide bike lanes where needed, it is important that the review process meets the standards and guidelines presented in this master plan and the City's Circulation Element.

*Impact Fees*

Another potential local source of funding are developer impact fees, typically ties to trip generation rates and traffic impacts produced by a proposed project. A developer may reduce the number of trips (and hence impacts and cost) by paying for on- and off-site bikeway improvements which will encourage residents to bicycle rather than drive. Establishing a clear nexus or connection between the impact fee and the project's impacts is critical in avoiding a potential lawsuit.

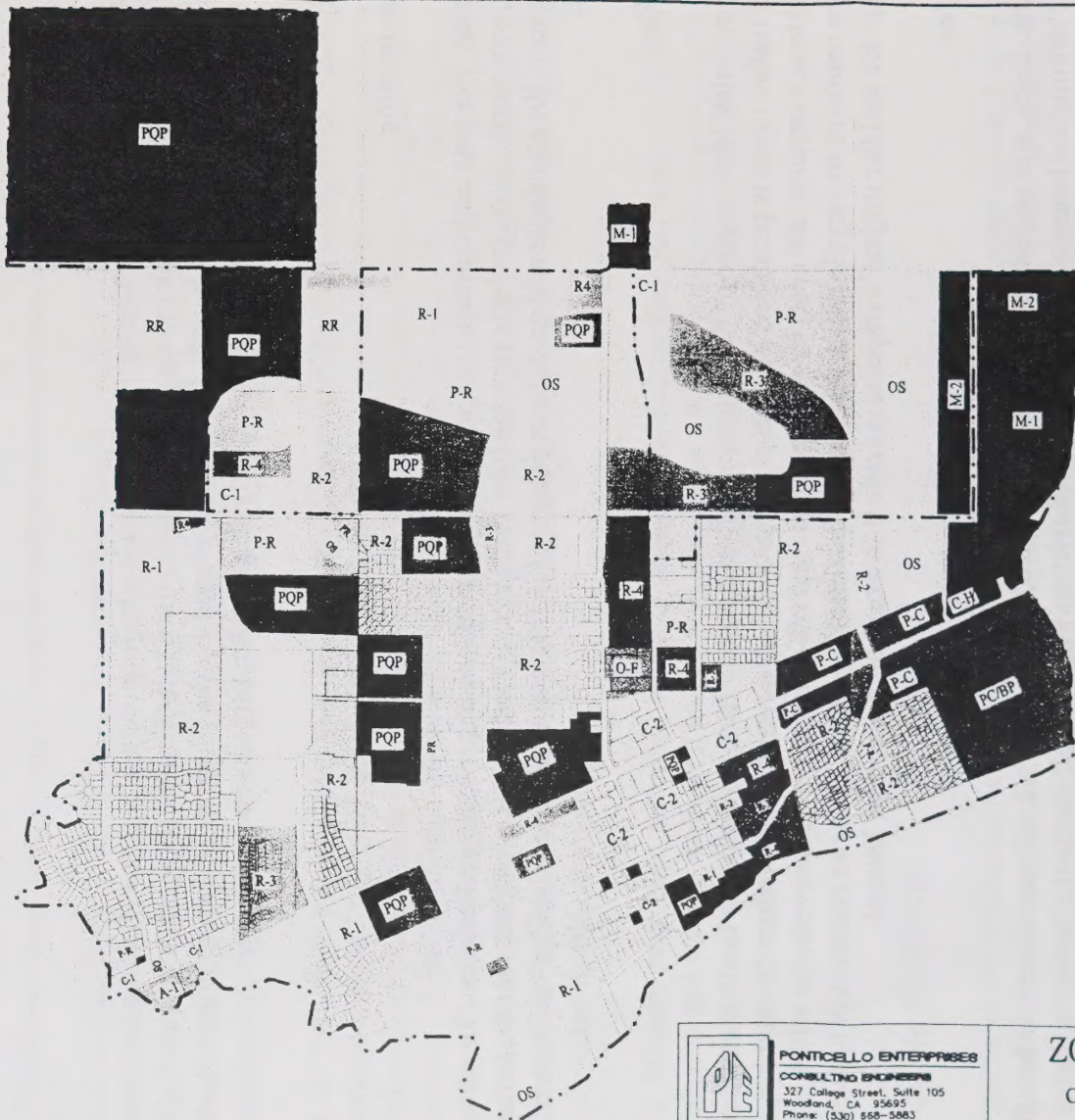
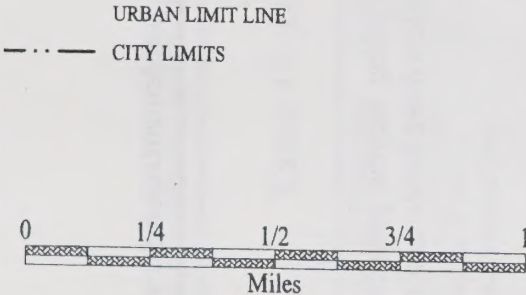
*Mello Roos*

Bike paths, lanes, and pedestrian facilities can be funded as part of a local assessment or benefit district. Defining the boundaries of the benefit district may be difficult unless the facility is part of a



# ZONING DESIGNATIONS

- A-1 (General Agriculture)
- RR (Rural Residential)
- R-1 (Single-Family Residential)
- R-2 (One & Two-Family Residential)
- R-3 (Multi-Family Residential)
- R-4 (High Density Multi-Family Residential)
- C-1 (Neighborhood Commercial)
- C-2 (Central Business District)
- C-H (Highway Service Commercial)
- O-F (Office)
- P-C (Planned Commercial)
- PC/BP (Planned Commercial/Business Park)
- M-1 (Light Industrial)
- M-2 (Heavy Industrial)
- PQP (Public/Quasi-Public)
- P-R (Parks & Recreation)
- O-S (Open Space)
- P-D (Planned Development Overlay)





**PONTICELLO ENTERPRISES**  
CONSULTING ENGINEERS  
327 College Street, Suite 105  
Woodland, CA 95695  
Phone: (530) 668-5883  
Fax: (530) 668-5893

**ZONING MAP**  
CITY OF WINTERS  
January 2002



U.C. BERKELEY LIBRARIES



C101696012



